SOIL SURVEY OF

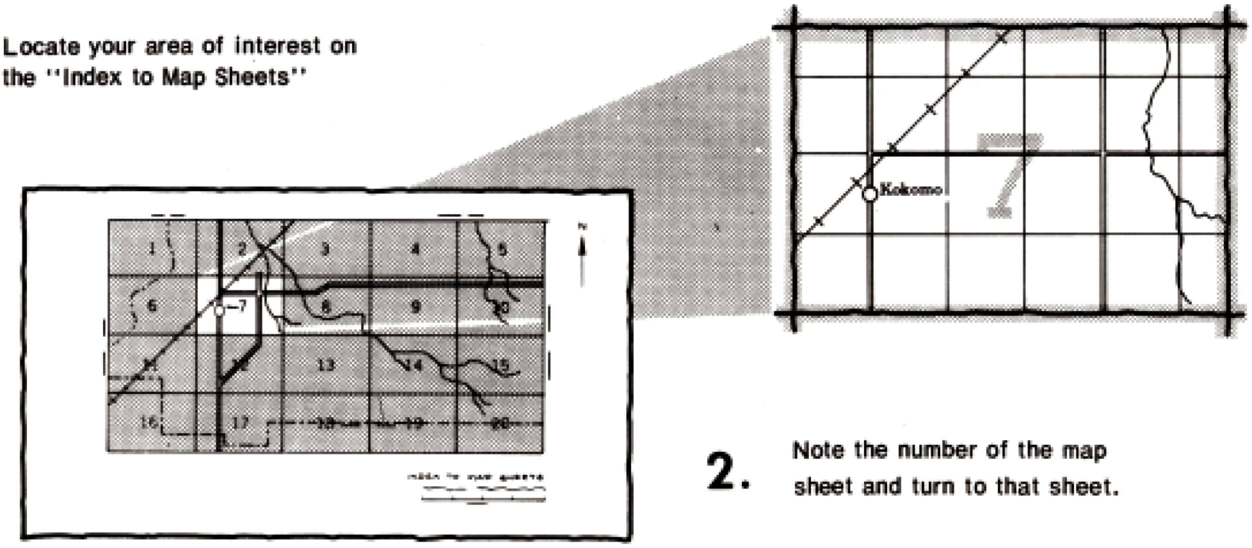
Beaufort and Jasper Counties South Carolina

United States Department of Agriculture
Soil Conservation Service

In cooperation with
South Carolina Agricultural Experiment Station and
South Carolina Land Resources Conservation Commission

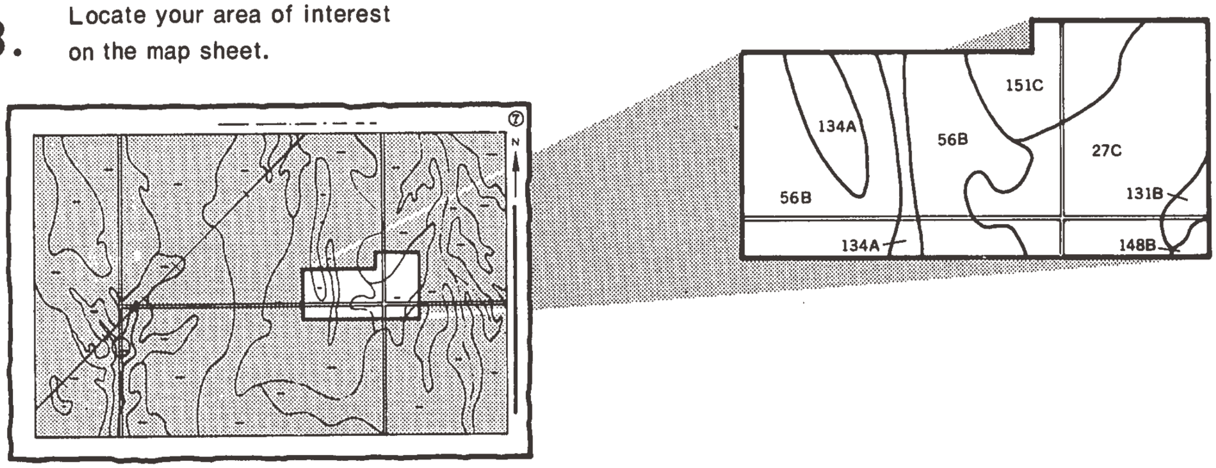
HOW TO USE

1. Locate your area of interest on the "Index to Map Sheets"

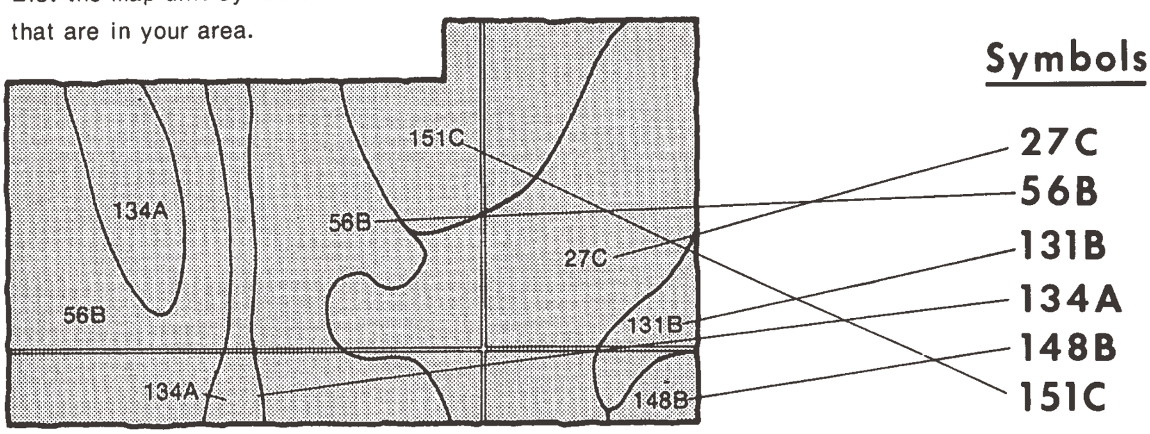


2. Note the number of the map sheet and turn to that sheet.

3. Locate your area of interest on the map sheet.

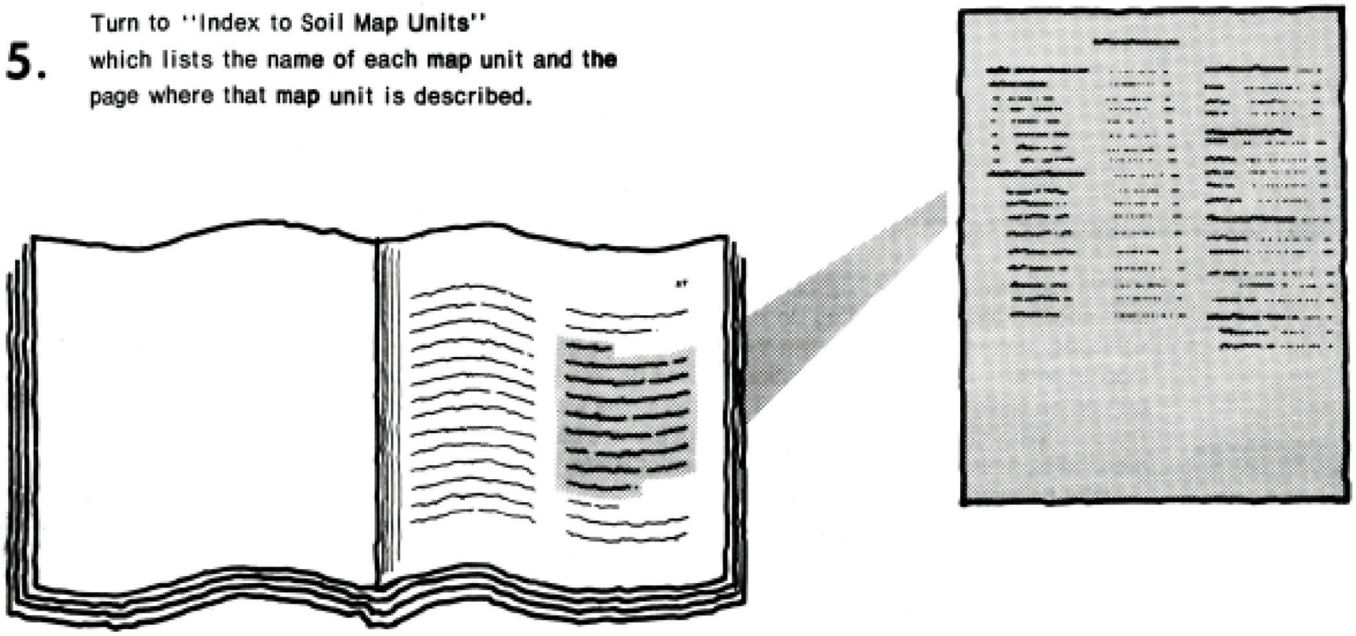


4. List the map unit symbols that are in your area.

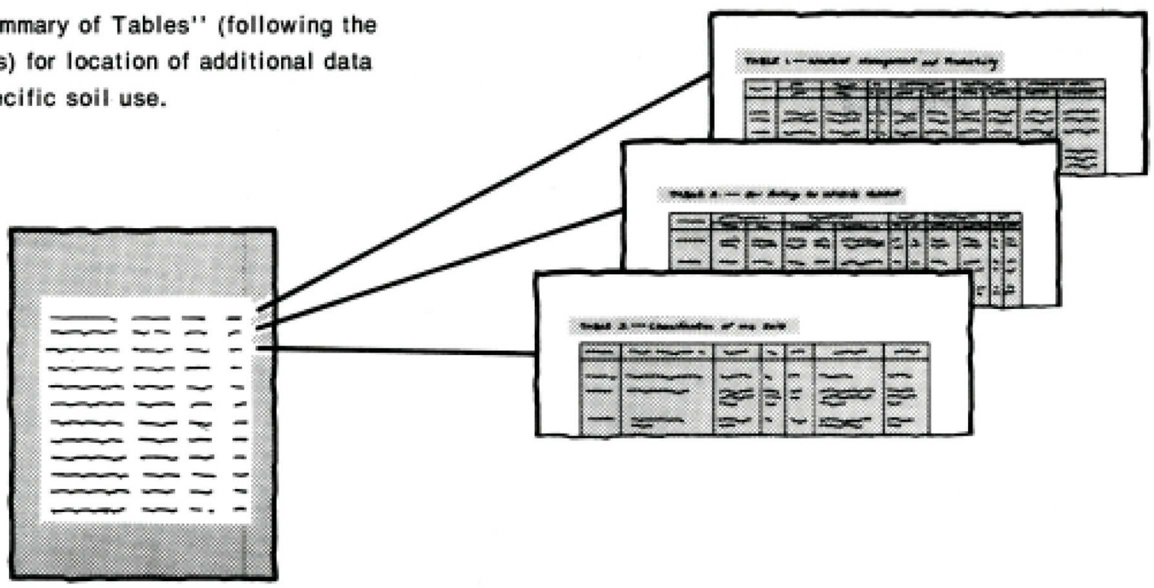


THIS SOIL SURVEY

5. Turn to "Index to Soil Map Units" which lists the name of each map unit and the page where that map unit is described.



6. See "Summary of Tables" (following the Contents) for location of additional data on a specific soil use.



7. Consult "Contents" for parts of the publication that will meet your specific needs. This survey contains useful information for farmers or ranchers, foresters or agronomists; for planners, community decision makers, engineers, developers, builders, or homebuyers; for conservationists, recreationists, teachers, or students; to specialists in wildlife management, waste disposal, or pollution control.

This is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and agencies of the States, usually the Agricultural Experiment Stations. In some surveys, other Federal and local agencies also contribute. The Soil Conservation Service has leadership for the Federal part of the National Cooperative Soil Survey. In line with Department of Agriculture policies, benefits of this program are available to all, regardless of race, color, national origin, sex, religion, marital status, or age.

Major fieldwork for this soil survey was completed in the period 1965-75. Soil names and descriptions were approved in 1975. Unless otherwise indicated, statements in the publication refer to conditions in the survey area in 1975. This survey was made cooperatively by the Soil Conservation Service, South Carolina Agricultural Experiment Station, and the South Carolina Land Resources Conservation Commission. It is part of the technical assistance furnished to the Beaufort-Jasper Soil and Water Conservation District.

Soil maps in this survey may be copied without permission, but any enlargement of these maps can cause misunderstanding of the detail of mapping and result in erroneous interpretations. Enlarged maps do not show small areas of contrasting soils that could have been shown at a larger mapping scale.

Cover: Rows of ryegrass on Seabrook fine sand reduce soil blowing and protect young vegetables against windblown sand.

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Issued January 1980

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Foreword

I would like to introduce the soil survey of Beaufort and Jasper Counties. This publication can help you and your community to plan and to use wisely one of our most precious natural resources—the soil.

This soil survey is intended for many different users. It can help a home buyer or developer determine soil related hazards or limitations that affect homesites. It can help land use planners determine the suitability of areas for housing or onsite sewage disposal systems. This survey can help a farmer estimate the potential crop or forage production of his land. It can be used to determine the suitability and limitations of soils for pipelines, buildings, landfills, recreation areas, and many other purposes.

Why do we need soil information? Many people assume that soils are all more or less alike. They are unaware that great differences in soil properties can occur within short distances.

Soils may be seasonally wet or subject to flooding. They may be shallow to bedrock or too unstable to be used as a foundation for buildings or roads. Very clayey or wet soils are poorly suited to septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

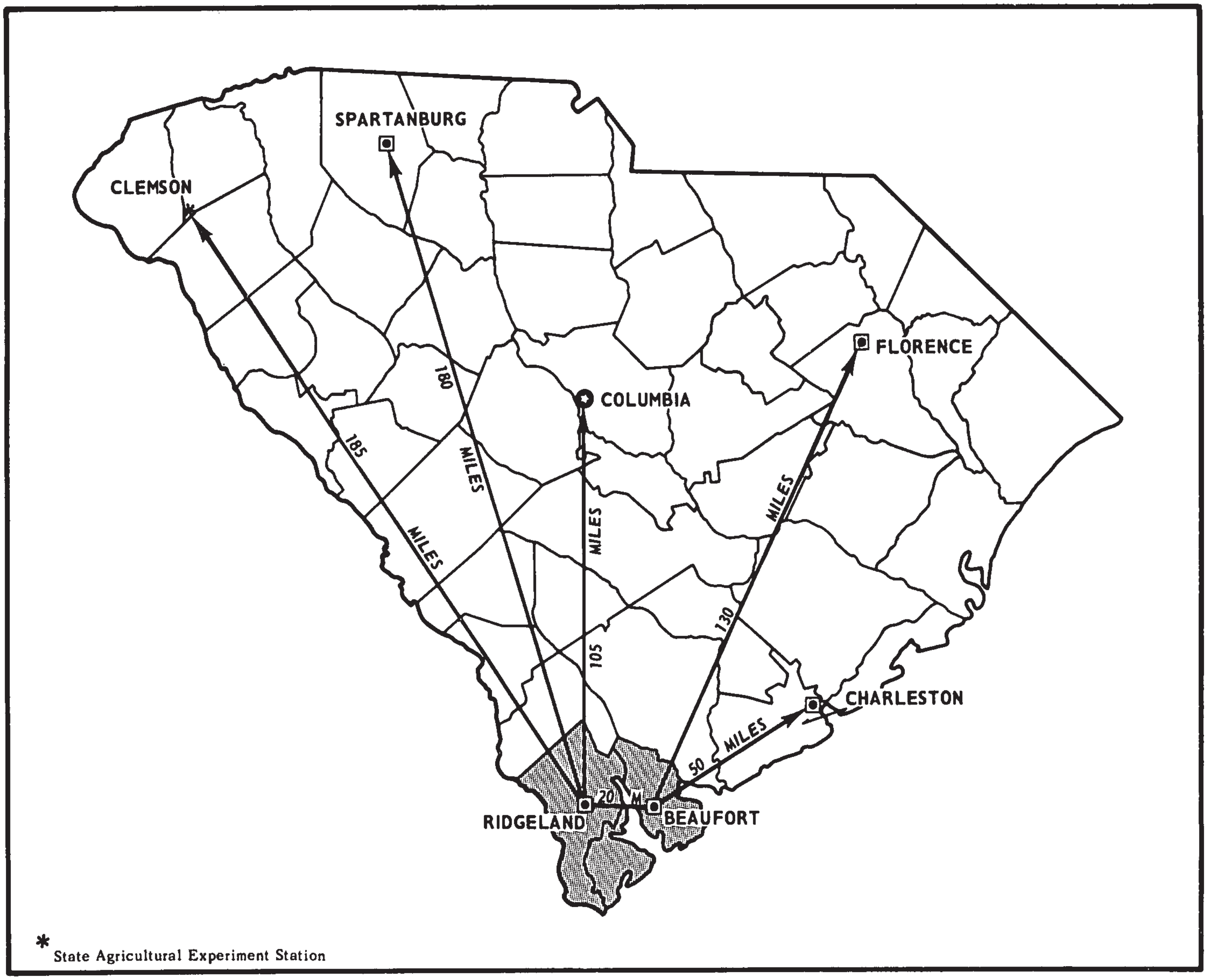
These and many other soil properties that affect land use are described in this soil survey. Also, the location of broad areas of soils is shown on the general soil map at the back of this publication, and the location of each kind of soil is shown on detailed maps in that part of the survey. Each soil in the survey area is described in this soil survey, and information is given about specific uses for each one. Soil related hazards, limitations, and potentials for various land uses are highlighted.

You will find this survey helpful in many ways, but space does not permit the listing of all of them. If you need additional information or assistance, please call your local office of the Soil Conservation Service or the Cooperative Extension Service. The soil conservationist assigned to the Beaufort-Jasper Soil and Water Conservation District or the county extension agent can assist you.

I believe that this soil survey, along with other resource information, will be of great help in making wise land use decisions for the conservation, development, and productive use of our soil, water, and related resources.

George E. Huey

George E. Huey
State Conservationist
Soil Conservation Service



Location of Beaufort and Jasper Counties in South Carolina.

SOIL SURVEY OF BEAUFORT AND JASPER COUNTIES, SOUTH CAROLINA

By W. M. Stuck, Soil Conservation Service

Soils surveyed by W. M. Stuck, C. B. Ware, Jr., and W. M. Steedly

United States Department of Agriculture, Soil Conservation Service, in cooperation with South Carolina Agricultural Experiment Station and South Carolina Land Resources Conservation Commission

BEAUFORT AND JASPER COUNTIES are in the southeastern part of South Carolina in the Atlantic Coastal Plain (See opposite page). The total area is approximately 1,250 square miles, or 800,000 acres. The area of Beaufort County is 581.25 square miles, or 372,000 acres, and the area of Jasper County is 668.75 square miles, or 428,000 acres. Beaufort, the county seat of Beaufort County, had a population of 9,425 in 1970 and is growing rapidly. Ridgeland, the county seat of Jasper County, had a population of 1,165 in 1970 and is growing moderately.

About 11 percent of the survey area is cropland, 2 percent is pasture, 57 percent is woodland, 11 percent is urban and nonfarm areas, and 19 percent is land that is flooded daily or occasionally by saltwater. The principal crops are corn, soybeans, small grains, and truck crops. Forest products are a major source of income. Several large plantations are in the area, and they are managed primarily for wildlife. Timber production, however, is a secondary but important consideration.

General nature of Beaufort and Jasper Counties

Climate; settlement, history, and development; geology; and physiography, relief, and drainage of Beaufort and Jasper Counties are discussed in this section.

Climate

By ROBERT L. JANISKEE, Department of Geography, University of South Carolina, with the assistance of MICHAEL BELL.

Beaufort and Jasper Counties lie in the southernmost region of South Carolina where the climate is milder than it is anywhere else in the State. This low lying coastal area has numerous islands, inlets, streams, and marshes and a temperature regime which clearly reflects the influences of its maritime and southerly location. The climate is decidedly subtropical, with long and rather hot summers followed by short and mild winters. Precipitation is abundant, averaging about 49 inches per year and remaining within the range of 40 to 58 inches during most years. Precipitation in the amount of one-tenth inch or more falls on an average of about 77 days. The annual distribution shows a major maximum of about 7 inches in July and a major minimum of about 2 inches in November. The period of April through October, which includes the growing season for most crops in this area, receives an average of about 34 inches of rain. This is about 70 percent of the annual total. Additional temperature and precipitation data, as recorded near Beaufort, Beaufort County, during the period 1949-1972, and at Ridgeland, Jasper County, during the period 1949-1973, can be found in tables 1, 2, 3, and 4.

The prevailing wind is southwesterly at about 8 miles an hour. Average windspeed tends to be highest in March. The average is 10 miles per hour from the northeast during that month. Relative humidity in midafternoon averages about 49 percent in spring and about 53 percent at other times. The average maximum, usually observed at dawn, is about 84 percent. Heavy fog occurs about 37 days of each year. The sun is visible during about 63 percent of the daylight hours. It ranges from a low of 56 percent in January to a high of 70 percent in April. About 110 clear days (sunrise to sunset) occur each year. The average evaporation rate (pan measured) is in the range of 55 to 60 inches per year.

Summers are long, very warm, and rather humid. Maximum daily temperatures tend to be near or above 90 degrees F, and minimum daily temperatures tend to be in the 65 degrees F to 70 degrees F range. Temperatures in excess of 100 degrees F are usually recorded a few days each year. The highest temperature during the period of record, 107 degrees F, was recorded in June 1950 at Ridgeland in Jasper County. Maritime tropical air persists in the area for extended periods during summer. The abundant supply of warm, moist, relatively unstable air produces frequent scattered showers and thunderstorms. About 54 thunderstorms occur in an average year, 16 of them in July. Hailstorms are infrequent and usually of little consequence. The tropical storm season is generally

considered to be the period from July through October. Hurricanes are rare to the area, but tropical storms bringing winds of up to 50 miles per hour occur an average of about every two or three years. The last hurricane was in September, 1959; its center came within 10 miles of the the town of Beaufort, where the highest winds were about 55 miles per hour. An occasional tornado occurs during the middle to latter part of summer. Many of the "tornadoes" observed in this period, however, are actually waterspouts which do not come ashore.

Autumn begins warm, humid, and showery, but a change to a warm, relatively dry, and pleasant Indian summer tends to take place in October and continue into November. The first freezing temperatures in the area can be expected in the middle of November, but the onset of frost tends to be quite variable from year to year and from place to place. Tropical storms or hurricanes occasionally bring heavy rains and strong winds to the area during this season.

The winter season is quite short and mild. It is also relatively dry, accounting for only about 20 percent of the average annual precipitation. Average daily maximum and minimum temperatures are about 63 degrees F and 38 degrees F, respectively. The average winter temperature is about 50 degrees F. Freezing temperatures occur about 27 days of each year. The coldest temperature during the period of record, 9 degrees F, was recorded at Ridgeland in Jasper County in January 1970. Winter precipitation normally comes in the form of rain associated with fronts and traveling cyclones. Measurable snowfall seldom occurs. Freezing rain (glaze) occurs some winters, but damaging ice storms are rare.

Spring is a season of rapid transition between a rather uniform winter and a rather uniform summer. March is typically a month of heavy rains and warming temperatures. April tends to be rather dry, but scattered thunderstorm activity begins in April and May as spring wanes and summer begins. April and May are the months of greatest tornado hazard, though the tornado season in this region is roughly March through October.

As shown in tables 3 and 4, the last freezing temperature usually occurred in mid to late March during the period of record. The length of the frost-free growing season averages approximately 246 days in Jasper County and about 249 days in Beaufort County. Coastal locations in both counties typically have 280 to 290 frost-free days. "Growing degree days," which are equivalent to "heating units," are tabulated for each county in tables 1 and 2. Beginning in spring, growing degree days accumulate in the amount by which the average temperature each day exceeds a base temperature, in this case 50 degrees F, below which growth is minimal for the principal crops in the area. The normal monthly accumulation is used to schedule single or successive plantings of a crop within the limits of the frost-free season extending from the last freeze in spring to the first freeze in fall. In March, growing degree days begin to accumulate rapidly. Annual growing degree days average about 5,900 in Jasper County and 6,300 in Beaufort County. In both counties inland locations record fewer growing degree days than coastal locations.

Settlement, history, and development

The first nonindigenous settlement of Beaufort and Jasper Counties occurred in 1521 when Spanish explorers settled on Port Royal Island. In 1562 French Huguenots sought refuge on Parris Island and built a fort there. Neither of these settlement attempts endured. The fort of the French Huguenots was destroyed by the Spanish in 1564. In 1663 the English, under Captain William Hilton, landed on Port Royal and declared the area to be England's, but again the Spanish destroyed the settlement. By 1690, however, there were enough English settlers on Port Royal Island that the King of England was making land grants to them. The town of Beaufort, the second oldest town in South Carolina, was chartered in 1710.

The first settlers in Beaufort and Jasper Counties found the area almost completely wooded and densely populated with many species of wildlife. Many settlers became traders in furs and skins. Lumber and other forest products were also a major industry of the early settlers. In 1680 rice was introduced into the area, and by 1719 the colonist merchants, traders, and farmers had built up great wealth, thereby laying the foundation for the highest culture the area has ever known.

Around 1739 indigo was introduced, and it was a very profitable crop as long as the English Government kept the bounty on it. The removal of this bounty during the Revolutionary War, however, caused a rapid decline in profits. Around 1785 Sea Island long-staple cotton became a major cash crop. This superb cotton sold for two dollars a pound in Europe in 1780. It became a victim of the boll-weevil in 1813. The worst hurricane this area has ever known occurred in 1893. It destroyed most of the dikes and other water control devices necessary for the production of rice. This crop never again regained its prominence.

Following the Civil War (1861-65), the economy was on a very low plane. A number of crops were grown, including corn, cotton, tobacco, rice, truck crops, and livestock, but none reached the prominence of rice, indigo, or Sea Island long-staple cotton of the prior years. Truck crops were a large and profitable industry in Beaufort County during the early part of the twentieth century.

Today's farming is highly diversified. Soybeans, corn, truck crops, and small grains are the main crops. Livestock, particularly beef cattle, is an important industry in both counties. Forest products are a major source of income, particularly in Jasper County. The seafood industry, including the provision of shrimp, crabs, fish, and oysters, contributes to the economy of both counties. Urban development and numerous recreational facilities have become a major part of the industry on the sea islands.

Geology

The geology of the area records many advances and retreats of the sea during which sediment was deposited and planed off repeatedly (*3*). For many ages the area appears to have been part of a nearly level plain. Much of this plain was inundated by the sea several times during the Miocene Epoch, a period of about 18,000,000 years. During the Pliocene Epoch, a period of about 13,000,000 years, part of it was above water, and much of the once continuous cover of Miocene deposits was eroded. Widespread earth movements that ended the Pliocene Epoch resulted in drowning the coastal region as far inland as the present Coastal Plain. The sea then probably stood about 270 feet higher than its present level. Since that time the sea has fallen and risen a number of times. This was caused by the thawing and accumulation of ice during the Pleistocene, or Ice Age, which lasted less than 1,000,000 years. Seven abandoned shorelines have been detected, and the area between each shoreline and the next lower one is treated as a separate terrace and given a distinctive name. Excluding the tidal marshes, which are at or near sea level, four of these terraces occur in Beaufort or Jasper Counties. They are as follows: Pamlico, 0 to 25 feet (above sea level); Talbot, 25 to 42 feet; Penholoway, 42 to 70 feet; and Wicomico, 70 to 100 feet. The more seaward terraces are of a younger age, are commonly less developed, and possess a higher percentage of weatherable minerals.

Physiography, relief, and drainage

Beaufort and Jasper Counties are in the Lower Coastal Plain and range in elevation from sea level on the eastern extremity to slightly over 100 feet on the northwestern boundary. Over 50 percent of the area has elevations of less than 42 feet. About 19.5 percent of the area, or about 156,000 acres, is flooded daily or occasionally by saltwater.

Most of the area consists of nearly level lowlands and low ridges that have slopes generally of less than 2 percent. The sea islands are dominantly sandy and range from excessively drained to very poorly drained. Soils on the flood plains of rivers and streams are subject to frequent flooding.

Although several rivers and streams are within or adjacent to the area, about 90 percent of the soils have high water tables. The Savannah River, which is the western boundary of Jasper County, is the only stream that does not originate in the Coastal Plain. Its watershed in Jasper County is very narrow, extending only 2 to 5 miles east of the river. The Combahee River is the northern boundary of Beaufort County; it, also, has a fairly narrow watershed in the northeastern part of Beaufort County. The Coosawhatchie River empties into the tidal influenced Broad River. This river is near the center of the two-county area, and has a significant watershed in both counties. The New River, in the lower central part of Jasper County, has a fairly large watershed, but because of its low gradient, this watershed is very ineffectual. In addition, there are many small streams in the inland areas and tidal streams adjacent to the sea islands.

How this survey was made

Soil scientists made this survey to learn what kinds of soil are in the survey area, where they are, and how they can be used. The soil scientists went into the area knowing they likely would locate many soils they already knew something about and perhaps identify some they had never seen before. They observed the steepness, length, and shape of slopes; the size of streams and the general pattern of drainage; the kinds of native plants or crops; and many facts about the soils. They dug many holes to expose soil profiles. A profile is the sequence of natural layers, or horizons, in a soil; it extends from the surface down into the parent material, which has been changed very little by leaching or by the action of plant roots.

The soil scientists recorded the characteristics of the profiles they studied, and they compared those profiles with others in counties nearby and in places more distant. Thus, through correlation, they classified and named the soils according to nationwide, uniform procedures.

After a guide for classifying and naming the soils was worked out, the soil scientists drew the boundaries of the individual soils on aerial photographs. These photographs show woodlands, buildings, field borders, roads, and other details that help in drawing boundaries accurately. The soil map at the back of this publication was prepared from aerial photographs.

The areas shown on a soil map are called soil map units. Some map units are made up of one kind of soil, others are made up of two or more kinds of soil, and a few have little or no soil material at all. Map units are discussed in the sections "General soil map for broad land use planning" and "Soil maps for detailed planning."

While a soil survey is in progress, samples of soils are taken as needed for laboratory measurements and for engineering tests. The soils are field tested, and interpretations of their behavior are modified as necessary during the course of the survey. New interpretations are added to meet local needs, mainly through field observations of different kinds of soil in different uses under different levels of management. Also, data are assembled from other sources, such as test results, records, field experience, and information available from state and local specialists. For example, data on crop yields under defined practices are assembled from farm records and from field or plot experiments on the same kinds of soil.

But only part of a soil survey is done when the soils have been named, described, interpreted, and delineated on aerial photographs and when the laboratory data and other data have been assembled. The mass of detailed information then needs to be organized so that it is readily available to different groups of users, among them farmers, managers of rangeland and woodland, engineers,

planners, developers and builders, homebuyers, and those seeking recreation.

General soil map for broad land use planning

The general soil map at the back of this publication shows, in color, map units that have a distinct pattern of soils and of relief and drainage. Each map unit is a unique natural landscape. Typically, a map unit consists of one or more major soils and some minor soils. It is named for the major soils. The soils making up one unit can occur in other units but in a different pattern.

The general soil map provides a broad perspective of the soils and landscapes in the survey area. It provides a basis for comparing the potential of large areas for general kinds of land use. Areas that are, for the most part, suited to certain kinds of farming or to other land uses can be identified on the map. Likewise, areas of soils having properties that are distinctly unfavorable for certain land uses can be located.

Because of its small scale, the map does not show the kind of soil at a specific site. Thus, it is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The kinds of soil in any one map unit differ from place to place in slope, depth, stoniness, drainage, or other characteristics that affect their management.

The soils in the survey area vary widely in their potential for major land uses. Table 5 shows the extent of the map units shown on the general soil map and gives general ratings of the potential of each, in relation to the other map units, for major land uses. Soil properties that pose limitations to the use are indicated. The ratings of soil potential are based on the assumption that practices in common use in the survey area are being used to overcome soil limitations. These ratings reflect the ease of overcoming the soil limitations and the probability of soil problems persisting after such practices are used.

Each map unit is rated for *cultivated farm crops*, *pasture*, *woodland*, *urban uses*, and *recreation areas*. Cultivated farm crops are those grown extensively by farmers in the survey area. Pasture includes summer, winter, and perennial grasses adapted to the soil and climate in the survey area. Woodland refers to land that is producing either trees native to the area or introduced species. Urban uses include residential, commercial, and industrial developments. Recreation areas include campsites, picnic areas, ballfields, and other areas that are subject to heavy foot traffic.

Soils on the Penholoway and Wicomico terraces

These map units are on terraces that range in elevation from about 42 feet to slightly more than 100 feet above sea level. They are dominantly nearly level, with most slopes adjacent to drainageways. Most of these soils have a sandy surface layer and a loamy subsoil. They are predominantly moderately well drained to very poorly drained.

1. Goldsboro-Lynchburg-Rains

Moderately well drained and somewhat poorly drained soils that have a sandy surface layer and loamy subsoil, and poorly drained soils that are loamy throughout

This map unit is in the central and northwestern part of Jasper County. It makes up about 13 percent of the county. The unit is about 24 percent Goldsboro soils, 14 percent Lynchburg soils, 13 percent Rains soils, and 49 percent minor soils.

Commonly, Goldsboro soils are in higher areas and are moderately well drained. Lynchburg soils are in lower areas and are somewhat poorly drained. Both have a sandy surface layer and a loamy subsoil. Rains soils are in low areas and are poorly drained. They are loamy throughout.

The minor soils in this map unit are the well drained Norfolk soils, the somewhat poorly drained Ocilla soils, the poorly drained Coxville and Pelham soils, and the very poorly drained Paxville soils.

About 60 percent of this map unit is woodland. The rest is mostly farmland or pasture. Wetness is the main limitation to use of these soils for farming and most other purposes. Parts of these soils have been drained by open ditches, tile drains, or a combination of both.

When adequately drained, the soils in this map unit have high potential for crops, pasture, and woodland. They have medium potential for urban and recreational uses, and high potential for development of openland wildlife habitat.

2. Ocilla-Chipley-Blanton

Somewhat poorly drained and moderately well drained soils that have a thick sandy surface layer and a loamy subsoil, and moderately well drained soils that are sandy throughout

This map unit is mainly in the north-central part of Jasper County, but a small area is in the northeastern part. It consists of broad ridges of nearly level soils that are somewhat poorly drained and moderately well drained, a few ridges of nearly level to gently sloping soils that are excessively drained, and drainageways of poorly drained and very poorly drained soils.

This map unit makes up about 21 percent of Jasper County. It is about 21 percent Ocilla soils, 12 percent Chipley soils, 10 percent Blanton soils, and 57 percent minor soils.

Chipley and Blanton soils are moderately well drained and are in the higher areas. Ocilla soils are somewhat poorly drained and are in intermediate areas. The Ocilla and Blanton soils have a sandy surface layer and a loamy subsoil, and the Chipley soils are sandy throughout.

Among the minor soils in this unit are the excessively drained Lakeland soils, the moderately well drained Echaw soils, the somewhat poorly drained Albany and Lynchburg soils, the poorly drained Pelham and Rains soils, and the very poorly drained Paxville and Pickney soils.

About 70 percent of this map unit is woodland. The rest is mostly farmland or pasture. A few large areas that are owned by corporations in the paper industry are managed for pulp and timber. Pine is the predominant forest type, except in the low drains and drainageways where hardwoods are predominant. The depth to the subsoil or the absence of fines below the surface layer is the main limitation to use of these soils for farming. Wetness is another limitation on some of the component soils. Small areas of soils that are wet have been drained by open ditches, tile drains, or a combination of both.

When the soils in this map unit are adequately drained, they have medium potential for cultivated crops, pasture, woodland, and urban and recreational uses. The potential is high for openland and wildlife habitat.

3. Paxville-Rains-Lynchburg

Very poorly drained and poorly drained soils that are loamy throughout, and somewhat poorly drained soils that have a sandy surface layer and a loamy subsoil

This map unit is in the north-central part of Jasper County. The landscape dominantly is a broad, nearly level, low area that has low ridges and poorly defined drainageways.

This map unit makes up about 5 percent of Jasper County. About 42 percent is Paxville soils, 25 percent Rains soils, 10 percent Lynchburg soils, and 23 percent minor soils.

Paxville soils are on lower areas and are very poorly drained. Rains soils are on slightly higher areas than the Paxville soils and are poorly drained. Lynchburg soils are on low ridges and are somewhat poorly drained. The Paxville and Rains soils are loamy throughout and Lynchburg soils have a sandy surface layer and a loamy subsoil.

The minor soils in this unit are the moderately well drained Goldsboro soils, the somewhat poorly drained Ocilla soils, and the poorly drained Pelham and Coxville soils.

About 80 percent of this map unit is woodland. The remainder is mostly farmland and pasture. A few large areas are owned by corporations in the paper industry and managed for pulp and timber. Pine is the dominant forest type, except in the low drains and drainageways where hardwoods are dominant. Wetness is the main limitation to use of these soils for farming and most other purposes. A small part of these soils has been drained by open ditches, tile drains, or a combination of both.

When the soils in this map unit are adequately drained, they have high potential for cultivated crops, pasture, and woodland. They have low potential for urban and recreational uses and high potential for development of woodland and wetland wildlife habitat.

Soils on the Pamlico terrace

These map units are in areas that are predominantly less than 25 feet above sea level. The units include the dominantly sandy soils that are surrounded by tidal streams and marshes on the sea islands; the dominantly loamy soils that generally are 5 to 15 miles inland from the coast; and the dominantly clayey soils that are essentially parallel to the coast about 15 to 30 miles inland.

4. Santee

Very poorly drained soils that have a loamy surface layer and clayey subsoil

Areas of these very poorly drained soils are in the Black Swamp in Jasper County west of Tillman, on the upper reaches of New River in the southern part of Jasper County, and along the Coosawhatchie and Tullifinny Rivers on the northeastern boundary of Jasper County and the northwestern boundary of Beaufort County.

This map unit makes up about 1 percent of Beaufort County and about 10 percent of Jasper County. It is about 62 percent Santee soils and 38 percent minor soils.

Santee soils are in low depressional areas and in poorly defined drainageways. They have a loamy surface layer and a clayey subsoil. The water table is at or near the surface about 6 months during most years. These soils are frequently flooded.

The minor soils in this unit are the somewhat poorly drained Okeetee soils, the poorly drained Argent soils, and the very poorly drained Cape Fear soils.

Almost all of this map unit is woodland. Because of the high content of calcium and phosphorus in the subsoil, the soils are well suited to the production of hardwoods, and hardwood forest is predominant. Suitability for pine is excellent to poor depending on the water regime. Where water management is practiced, the soils are well suited to pine trees. Wetness is the main limitation to use of these soils for farming and for most other purposes. Flooding and ponding are common in winter and early in spring. The clayey subsoil and slow permeability are additional limitations to use of these soils for crops.

When the soils in this map unit are adequately drained, they have medium potential for cultivated crops and pasture and low potential for urban and recreational uses. They have high potential for woodland and high potential for development of woodland and wetland wildlife habitat.

5. Buncombe

Excessively drained soils that are sandy throughout

This map unit consists of broad, narrow ridges of nearly level and gently sloping, excessively drained sands. Small depressions of moderately well drained and poorly drained sandy soils are in this map unit. All of this unit is in the northwestern part of Jasper County, about 1 mile east of, and parallel to, the Savannah River. These soils formed in alluvial deposits transported by the Savannah River and deposited over marine sediment.

This map unit makes up about 1 percent of Jasper County. It is about 86 percent Buncombe soils and 14 percent minor soils.

The Buncombe soils are in the higher areas and are excessively drained. They are sandy throughout. The minor soils in this unit are the moderately well drained Seabrook soils, the somewhat poorly drained Seewee soils, and the very poorly drained Polawana soils.

About 90 percent of this map unit is woodland. A few small areas are used for row crops or pasture. Wooded areas are predominantly pine, but significant competition is afforded by turkey oak, post oak, and blackjack oak. Droughtiness, because of the absence of fines, is the main limitation to use of these soils for farming and most other purposes. Flooding is a potential hazard in some of the lower areas.

The soils in this map unit have low potential for crops, pasture, and urban and recreational uses. They have medium potential for woodland. Because of their droughtiness and the resulting absence of cover and low natural food supply, these soils have a low potential for wildlife habitat.

6. Argent-Okeetee

Poorly drained and somewhat poorly drained soils that have a loamy surface layer and a clayey subsoil

Most of this map unit is in the lower central part of Jasper County in the vicinity of Hardeeville and in the northeastern part of Jasper County in the vicinity of Coosawhatchie.

This unit makes up about 1 percent of Beaufort County and about 21 percent of Jasper County. It is about 38 percent Argent soils, 13 percent Okeetee soils, and 49 percent minor soils.

Argent soils are in slightly lower areas than Okeetee soils. Argent soils are poorly drained, and Okeetee soils are somewhat poorly drained. Argent soils have a clay loam, loam, or fine sandy loam surface layer, and Okeetee soils commonly have a fine sandy loam surface layer. Both the Argent and the Okeetee soils have a clayey subsoil and a water table at a depth of less than about 1 foot for about 6 months during most years.

The minor soils in this map unit are the moderately well drained Eulonia soils, the poorly drained Yonges soils, and the very poorly drained Santee soils.

About 90 percent of this unit is woodland. The rest is used mostly for crops or pasture. Mixed pine and hardwoods make up the forests, with pine predominating in the higher areas and hardwoods predominating in the lower areas. Wetness and the high content of clay in the subsoil are the main limitations to use of these soils for farming and for most other purposes.

This map unit has medium potential for crops, high potential for pasture, and high potential for woodland. Wetness and the excessive fines in the subsoil are such severe limitations and so difficult to overcome that the potential for residential and other urban uses is low. The potential for recreational uses is also low.

A large part of this map unit is made up of large plantations that range up to 50,000 acres in size. These plantations are managed primarily for wildlife, but timber production is an important secondary consideration. Quail is the major wildlife interest of the plantation owners. Although most of the soils in this unit are not well suited to bicolor lespedeza and some of the other quail food crops, there are many small ridges that are suited to such crops. The overall potential is medium for development of openland wildlife habitat, and it is high for woodland and wetland wildlife habitat.

7. Bladen-Coosaw-Wahee

Poorly drained and somewhat poorly drained soils that have a loamy surface layer and a clayey subsoil, and somewhat poorly drained soils that have a thick sandy surface layer and a loamy subsoil

Areas of these nearly level soils are scattered throughout the northern part of Beaufort County and the eastern part of Jasper County.

This map unit makes up about 17 percent of Beaufort County and about 10 percent of Jasper County. It is about 25 percent Bladen soils, 18 percent Coosaw soils, 12 percent Wahee soils, and 45 percent minor soils.

Bladen soils are predominant in low areas, and Coosaw soils are predominant in higher areas. Bladen soils are poorly drained, and Coosaw soils are somewhat poorly drained. Wahee soils are in areas at intermediate elevations. They are somewhat poorly drained. Bladen and Wahee soils have a loamy surface layer and a clayey subsoil, and Coosaw soils have a thick sandy surface layer and a loamy subsoil.

Among the minor soils in this map unit are the moderately well drained Chisolm and Nemours soils, the somewhat poorly drained Yemassee soils, the poorly drained Argent and Williman soils, and the very poorly drained Deloss soils.

About 60 percent of this map unit is woodland. The rest is used mostly for crops or pasture. Mixed pine and hardwoods are the major forest types, with pine predominant in the higher areas and hardwoods commonly predominant in the lower areas. Wetness is the main limitation to use of these soils for farming and most other purposes.

This map unit has medium to high potential for crops and pasture. Areas of these soils have been drained by open ditches, tile drains, or a combination of both. Potential is high for woodland. Because of the wetness and the slow permeability of most of the component soils, this map unit has low potential for urban uses. The potential is medium for recreational uses, and the overall potential for development of wildlife habitat is medium.

8. Wando-Seabrook-Seewee

Excessively drained, moderately well drained, and somewhat poorly drained soils that are sandy throughout

Areas of these sandy soils are scattered throughout the southern part of Beaufort County. They are commonly the predominant soils on the uplands of the sea islands.

This map unit makes up about 31 percent of Beaufort County. It is about 24 percent Wando soils, 18 percent Seabrook soils, 11 percent Seewee soils, and 47 percent minor soils.

Wando soils are in the higher areas and are excessively drained. Seabrook soils are in intermediate areas and are moderately well drained. Seewee soils are commonly in slightly lower areas than Seabrook soils and are somewhat poorly drained. All of these soils are sandy throughout and differ primarily in drainage. The Seewee soils have an accumulation of illuvial humus 18 to 30 inches below the surface.

The minor soils in this map unit are the somewhat poorly drained Ridgeland soils, the poorly drained Baratari soils, and the very poorly drained Polawana and Rosedhu soils.

About 60 percent of this map unit is woodland, 20 percent has been developed for urban and recreational uses, and 20 percent is cultivated crops, truck crops, or pasture. With the exception of the soils in the higher areas, wetness is the main limitation to use of these soils for farming and most other purposes. Droughtiness is a limitation to the excessively drained soils in the higher areas. There is rapid leaching in all of these soils.

This map unit has medium potential for cultivated crops, pasture, woodland, and urban and recreational uses. All of the soils in this unit, except the excessively drained Wando soils, have a seasonal high water table. This is a severe limitation for septic tank absorption fields. The overall potential is medium to low for development of wildlife habitat.

9. Coosaw-Williman-Ridgeland

Somewhat poorly drained and poorly drained soils that have a thick sandy surface layer and a loamy subsoil, and somewhat poorly drained soils that are sandy throughout

Areas of these nearly level soils are scattered throughout Beaufort County. Most are on the sea islands or bordered on one or more sides with tidal streams or marshes.

This map unit makes up about 13 percent of Beaufort County. It is about 21 percent Coosaw soils, 20 percent Williman soils, 13 percent Ridgeland soils, and 46 percent minor soils.

Coosaw soils are predominant in the higher areas and are somewhat poorly drained. Williman soils are in low areas and are poorly drained. Both of these soils have a sandy surface layer 20 to 40 inches thick and a loamy subsoil. Ridgeland soils commonly occupy intermediate areas, are sandy throughout, and are somewhat poorly drained. All of these soils have a seasonal high water table.

Among the minor soils in this map unit are the excessively drained Wando soils, the moderately well drained Seabrook soils, the somewhat poorly drained Murad soils, and the very poorly drained Deloss and Polawana soils.

About 50 percent of this unit is woodland, 15 percent has been developed for urban and recreational uses, and 35 percent is used for truck crops, other crops, and pasture. Wetness is the main limitation to use of these soils for farming and most other purposes.

This map unit has medium potential for cultivated crops, pasture, woodland, and recreational uses. Because of the seasonal high water table, it has low potential for urban uses. The overall potential is medium for development of wildlife habitat.

10. Fripp-Baratari

Excessively drained and poorly drained soils that are sandy throughout

This map unit consists of gently sloping to steep soils on narrow ridges and nearly level soils in narrow troughs. These soils formed in windblown marine sediment with the long axis of the ridges and troughs paralleling the coast line. Areas of these ridges and troughs are on the more seaward sea islands or the seaward part of these islands in Beaufort County.

This map unit makes up about 2 percent of Beaufort County. It is about 46 percent Fripp soils, 30 percent Baratari soils, and 24 percent minor soils.

Fripp soils are on the ridges and are excessively drained, and Baratari soils are in the drains and are poorly drained. Both Fripp and Baratari soils are sandy throughout. Baratari soils have a seasonal high water table that ranges from a few inches above the surface to about 1 foot below it.

Among the minor soils in this map unit are the somewhat poorly drained Seewee soils, the very poorly drained Polawana and Rosedhu soils, and the frequently flooded Capers soils.

Partly because of their proximity to the ocean, a large part of this map unit is being used for homesites, camping areas, parks, and golf courses. The rest is woodland. The narrow ridge and trough topography and the sandy texture are the main limitations of these soils for farming and for most other uses.

This map unit has low potential for nearly all major land uses. Because of its proximity to the ocean and semitropical environment, however, large areas have been intensively developed for residential and recreational uses. The overall potential is low for development of wildlife habitat.

Soils on the flood plains and tidal marsh

These map units are on broad, low areas. They are flooded either occasionally by freshwater or brackish water or daily by saltwater. Areas flooded by freshwater are heavily wooded and have poorly defined drainageways. Areas flooded daily by tidewater are commonly dissected by meandering streams and support only marsh vegetation.

11. Tawcaw-Chastain

Somewhat poorly drained soils that are clayey throughout, and poorly drained soils that have a loamy surface layer and a clayey subsoil

These soils formed in alluvium transported and deposited by the Savannah River. The only area of these nearly level soils is in Jasper County. It is in the northwestern part, adjacent to the Savannah River.

This map unit makes up about 3 percent of Jasper County. It is about 53 percent Tawcaw soils, 38 percent Chastain soils, and 9 percent minor soils.

Tawcaw soils are on slightly higher areas than Chastain soils. Tawcaw soils are somewhat poorly drained, and Chastain soils are poorly drained. Tawcaw soils are clayey throughout, and Chastain soils have a loamy surface layer and a clayey subsoil. Both Tawcaw and Chastain soils are subject to frequent flooding and have a seasonal high water table.

Among the minor soils in this map unit are small ridges of excessively drained Buncombe soils.

Nearly all of this unit is hardwood forest. The unit is well suited to this use. Wetness, the hazard of flooding, and the high content of clay in the surface layer and subsoil are the main limitations to use of these soils for farming and most other purposes. Intensive conservation measures that include flood protection and drainage are needed to make these soils suitable for cultivated crops or pasture.

This map unit has low potential for cultivated crops and pasture. It also has low potential for urban and most recreational uses. It has high potential for woodland, and the overall potential is low for development of wildlife habitat.

12. Bohicket-Capers-Handsboro

Very poorly drained mineral and organic soils that are flooded daily or occasionally by saltwater, and adjacent upstream areas that are flooded occasionally by freshwater

Areas of these nearly level soils are extensive in the southern part of both counties. They extend many miles inland and are adjacent to the tidal influence streams.

This map unit makes up about 35 percent of Beaufort County and about 16 percent of Jasper County. It is about 53 percent Bohicket soils, 17 percent Capers soils, 7 percent Handsboro soils, and 23 percent minor soils.

Bohicket soils are commonly in slightly lower areas than Capers and Handsboro soils. They are frequently adjacent to tidal streams and they are flooded by saltwater to a depth of 6 to 36 inches twice daily. The bearing capacity of Bohicket soils is inadequate for the support of livestock.

Capers soils are commonly in areas a few inches higher than Bohicket soils. They are not as highly dissected with small tidal streams, and they have a higher bearing strength than Bohicket soils. Both Capers and Bohicket soils have a silty clay loam surface layer and are underlain by clay and clay loam.

Handsboro soils are very poorly drained, organic soils that are flooded daily or occasionally by saltwater. Most of the Handsboro soils are in the southwestern part of Jasper County.

Among the minor soils in this map unit are small islands of the excessively drained Wando soils, the moderately well drained Seabrook soils, the poorly drained Argent soils, and the very poorly drained Santee soils. In addition to these soils are many small areas, and one large area near Savannah, of dredging deposits. Material in the dredging deposits ranges from sand to clay.

Most of the soils in this map unit are in marsh grasses. Large areas in the more inland positions were used for rice production prior to 1893. The hazard of flooding, excessive salt and sulfur, and low bearing strength are some of the limitations to use of these soils.

The soils in this map unit are not suitable for cultivated crops, pasture, woodland, or urban uses. They are better suited to natural habitat for wetland wildlife than to other uses.

Broad land use considerations

Deciding which land should be used for urban development is an important issue in the survey area. Each year a considerable amount of land is being developed for urban use in Beaufort, Ridgeland, Hardeeville, Bluffton, and especially on some of the sea islands. It is estimated that about 80,000 acres, or nearly 10 percent of the survey area, is urban or built-up land. The General Soil Map is most helpful for planning the general outline of urban areas. It cannot, however, be used for the selection of sites for specific urban structures. In general, in the survey area, the soils that have good potential for cultivated crops also have good potential for urban development. The data about specific soils in this survey may be helpful in planning future land use patterns.

Most of the soils in the survey area are not well suited for urban development. About 24 percent of the area is in the Bohicket-Capers-Handsboro map unit which is flooded daily or occasionally by saltwater. In addition, the soils in the Tawcaw-Chastain map unit are subject to frequent flooding by freshwater, and nearly all of the soils in the Santee map unit are very poorly drained. Because of the steep slopes and sandy texture of the Fripp soils and the wetness of the Baratari soils, the Fripp-Baratari map unit is poorly suited to urban development. The poorly drained Argent soils and the somewhat poorly drained Okeetee soils of the Argent-Okeetee map unit are both too wet and have too many fines in the subsoil for satisfactory urban development. These land areas that are essentially unsuitable for urban development make up about 45 percent of the survey area.

Over half of the survey area is made up of soils that can be used for urban development. The areas that are

better suited and require the least amount of management are parts of the Goldsboro-Lynchburg-Rains map unit, parts of the Ocilla-Chipley-Blanton map unit, and parts of the Wando-Seabrook-Seewee map unit. Other areas that may be used for urban development with more intensive management are parts of the Paxville-Rains-Lynchburg map unit, parts of the Bladen-Coosaw-Wahee map unit, parts of the Coosaw-Williman-Ridgeland map unit, and the Buncombe map unit. Wetness is the main limitation for urban use in most of these areas. Open ditches, tile drains, or a combination of both can be used to drain these soils and minimize the limitation.

Only about 27 percent of the survey area is unsuitable for farming. Most of this area is in the Bohicket-Capers-Handsboro map unit which is flooded twice daily or occasionally by saltwater. The rest is in the Tawcaw-Chastain and Fripp-Baratari map units. Soils in the Goldsboro-Lynchburg-Rains map unit and soils in the Paxville-Rains-Lynchburg map unit have high potential for crops and pasture. Soils identified as map units 2, 4, 7, 8, and 9 have medium potential for crops and pasture. Most of the soils in these map units need drainage in order to maintain satisfactory yields. Soils in the Argent-Okeetee map unit have medium potential for crops and high potential for pasture. The soils in the Buncombe map unit have low potential for crops and pasture because of their droughtiness.

Because of their location and soil characteristics, the soils in the Wando-Seabrook-Seewee map unit and those in the Coosaw-Williman-Ridgeland map unit have high to medium potential for most truck crops. These somewhat sandy soils are in the southern part of Beaufort County, and, being generally surrounded by tidal streams, warm up early in spring. Most of these soils need some drainage in order to maintain maximum yields.

With the exception of the Bohicket-Capers-Handsboro map unit, and the Fripp-Baratari map unit, all of the soils in the survey area have either high or medium potential for woodland. Pine is the predominant forest type in the higher areas, hardwoods are predominant in the lower areas, and mixed pine and hardwoods are in the intermediate areas.

The sea islands that border on the Atlantic Ocean have broad sandy beaches that are well suited to swimming, sunbathing, and fishing. The numerous tidal and freshwater streams furnish excellent fishing, boating, and water skiing. The Tawcaw-Chastain map unit is an excellent nature study area. All of these map units provide habitat for many important species of wildlife.

Soil maps for detailed planning

The map units shown on the detailed soil maps at the back of this publication represent the kinds of soil in the survey area. They are described in this section. The descriptions together with the soil maps can be useful in determining the potential of a soil and in managing it for food and fiber production; in planning land use and developing soil resources; and in enhancing, protecting, and preserving the environment. More information for each map unit, or soil, is given in the section "Use and management of the soils."

Preceding the name of each map unit is the symbol that identifies the soil on the detailed soil maps. Each soil description includes general facts about the soil and a brief description of the soil profile. In each description, the principal hazards and limitations are indicated, and the management concerns and practices needed are discussed.

The map units on the detailed soil maps represent an area on the landscape made up mostly of the soil or soils for which the unit is named. Most of the delineations shown on the detailed soil map are phases of soil series.

Soils that have a profile that is almost alike make up a *soil series*. Except for allowable differences in texture of the surface layer or of the underlying substratum, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement in the profile. A soil series commonly is named for a town or geographic feature near the place where a soil of that series was first observed and mapped. The Seabrook series, for example, was named for the town of Seabrook in Beaufort County.

Soils of one series can differ in texture of the surface layer or in the underlying substratum and in slope, erosion, stoniness, salinity, wetness, or other characteristics that affect their use. On the basis of such differences, a soil series is divided into phases. The name of a *soil phase* commonly indicates a feature that affects use or management. For example, Norfolk loamy fine sand, 0 to 2 percent slopes is one of two phases within the Norfolk series.

Some map units are made up of two or more dominant kinds of soil. Such map units are called soil complexes, soil associations, and undifferentiated groups.

A *soil complex* consists of areas of two or more soils that are so intricately mixed or so small in size that they cannot be shown separately on the soil map. Each area includes some of each of the two or more dominant soils, and the pattern and proportion are somewhat similar in all areas. Fripp-Baratari complex is an example.

A *soil association* is made up of soils that are geographically associated and are shown as one unit on the map because it is not practical to separate them. A soil association has considerable regularity in geographic pattern and in the kinds of soil that are a part of it. The extent of the soils can differ appreciably from one delineation to another; nevertheless, interpretations can be made for use and management of the soils. Okeetee-Eulonia association is an example.

An *undifferentiated group* is made up of two or more soils that could be mapped individually but are mapped as one unit because there is little value in separating them. The pattern and proportion of the soils are not uniform. An area shown on the map has at least one of the dominant (named) soils or may have all of them.

Most map units include small, scattered areas of soils other than those that appear in the name of the map unit. Some of these soils have properties that differ substantially from those of the dominant soil or soils and thus could significantly affect use and management of the map unit. These soils are described in the description of each map unit. Some of the more unusual or strongly contrasting soils that are included are identified by a special symbol on the soil map.

Most mapped areas include places that have little or no soil material and support little or no vegetation. Such places are called *miscellaneous areas*; they are delineated on the soil map and given descriptive names. Borrow pit is an example. Some of these areas are too small to be delineated and are identified by a special symbol on the soil map.

About 34 percent of the more heavily wooded areas of Jasper County was mapped using reconnaissance soil survey methods. In these areas the kinds of soils were determined by making soil investigations at predetermined sites using somewhat of a grid system. This information allows the grouping of the soils into map units that have similar component soils and that are in the same general ratio. The locations of the component soils in each map unit are described by their relative position on the landscape. Map units are identified on the detailed soil map with two capital letters in the map symbol, and the delineations are commonly larger than those of the detached soil survey. This type of soil survey information is preferred by woodland managers.

The acreage and proportionate extent of each map unit are given in table 6, and additional information on properties, limitations, capabilities, and potentials for many soil uses is given for each kind of soil in other tables in this survey. (See "Summary of tables.") Many of the terms used in describing soils are defined in the Glossary.

Map unit descriptions

Aa—Albany loamy fine sand, 0 to 2 percent slopes. This deep, somewhat poorly drained soil is nearly level. Individual areas range from 5 to more than 50 acres in size.

Typically, the surface layer is very dark gray loamy fine sand about 7 inches thick. The subsurface layer is loamy fine sand about 43 inches thick. It is light gray in the upper part and very pale brown in the lower part. The subsoil, to a depth of 75 inches, is mottled, light gray sandy clay loam.

Included with this soil in mapping are a few soils that have a surface layer of loamy sand or fine sand. In some areas the combined sandy surface and subsurface layers are 60 to 80 inches thick. Also included are a few small areas of Blanton, Chipley, Lakeland, Ocilla, and Pelham soils, and areas along drainageways where slopes are as much as 3 percent. The included soils make up about 20 to 30 percent of this map unit. Separate areas of included soils, however, generally are less than 5 acres in size.

This soil is low in natural fertility and content of organic matter. It is strongly acid or very strongly acid throughout except where limed. Permeability is moderate, and available water capacity is medium. Tilth is good, and the soil can be worked throughout a wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots.

This map unit has medium potential for growing row crops, small grains, hay, and pasture. Maintaining satisfactory fertility levels and adequate drainage are the major concerns in management. Open ditches, tile drains, or a combination of both are used to drain this soil. Because of the rapid leaching of plant nutrients in this soil, fertilizers are more efficient if applied at intervals rather than in single applications. Minimum tillage and the use of cover crops help maintain the content of organic matter and improve yields.

This soil has a medium potential for growing loblolly pine and slash pine. It has no major limitations for woodland use or management.

This soil has moderate limitations for most urban uses. The seasonal high water table creates a severe limitation for septic tank filter fields. Capability subclass IIIw; woodland suitability group 3w2.

AB—Albany-Blanton association. This association consists of somewhat poorly drained and moderately well drained, nearly level soils that are in an irregular pattern on broad uplands. The Albany soils are dominant at lower elevations, and the Blanton soils are dominant at higher elevations. These soils formed in sandy and loamy coastal plain sediment. The mapped areas are irregular in shape and range from about 300 to 1,000 acres in size. Individual areas of each soil range from 10 to 200 acres in size.

Albany soils make up about 60 percent of the association. They are somewhat poorly drained. Typically, the surface layer is very dark gray loamy fine sand about 7 inches thick. The subsurface layer is loamy fine sand about 43 inches thick. It is light gray in the upper part and very pale brown in the lower part. The subsoil, to a depth of 75 inches, is mottled, light gray sandy clay loam.

The Albany soils have moderate permeability and medium available water capacity. The soil material is strongly acid or very strongly acid throughout.

Blanton soils make up about 25 percent of the association. They are moderately well drained. Typically, the surface layer is gray fine sand about 8 inches thick. The subsurface layer is fine sand about 37 inches thick. The upper 7 inches of it is light gray, and the lower 30 inches is very pale brown. The subsoil, to a depth of about 60 inches, is light yellowish brown fine sandy loam. Below that, to a depth of 80 inches, it is yellowish brown sandy clay loam that has gray and red mottles.

The Blanton soils have moderate permeability and low available water capacity. The soil material is strongly acid or very strongly acid throughout the profile.

Included with these soils in mapping are small areas of Ocilla, Osier, and Bonneau soils. Ocilla soils are somewhat poorly drained. They occupy positions similar to those of

the Albany soils but have thinner combined surface and subsurface layers. These areas range from 5 to 10 acres in size. The poorly drained Osier soils are in narrow drainageways and depressions. The moderately well drained Bonneau soils occupy small areas on higher ridges.

Most areas of this association are wooded. The potential for woodland is medium. Slash pine, loblolly pine, and longleaf pine are the best adapted species. Limitations for the use of equipment are moderate.

This association has medium to low potential for row crops and medium potential for pasture. Soils at lower elevations require drainage for satisfactory yields. Open ditches, tile drains, or a combination of both can be used to drain these soils. Soils at higher elevations are slightly droughty, and soil blowing may occur on large cultivated fields that are left unprotected. Wind stripcropping, cover crops, and cropping sequences that include very frequent crops of perennial grasses and legumes help to control erosion and replenish the content of organic matter. Plant nutrients leach rapidly in this soil, and for this reason fertilizers are more effective if they are applied at intervals rather than in a single application.

This association has medium potential for most urban uses. The seasonal high water table of the Albany soils limits them for all uses. The excessively sandy texture of the surface layer and subsurface layer of the Blanton soils is a limitation for sewage lagoons, camp areas, and playgrounds. The seasonal high water table of the Albany soils is a limitation for septic tank absorption fields that is difficult to overcome. The Blanton soils have only slight limitations for septic tank absorption fields. Albany soils in capability subclass IIIw and woodland suitability group 3w2. Blanton soils in capability subclass IIIs and woodland suitability group 3s2.

AC—Albany-Pelham-Ocilla association. This association consists of somewhat poorly drained and poorly drained, nearly level soils that are in an irregular pattern. The landscape is mainly low, broad ridges with slight depressional areas and shallow drainageways. Albany soils are commonly on higher ridges, Pelham soils are in slight depressions and drainageways, and Ocilla soils are adjacent to the drainageways and on some ridges. All of these soils formed in loamy coastal plain sediment. The mapped areas are irregular in shape and range from about 200 to 1,000 acres in size. Individual areas of each soil range from 5 to 50 acres in size.

Albany soils are somewhat poorly drained. They make up about 40 percent of the association. Typically, the surface layer is very dark gray loamy fine sand about 7 inches thick. The subsurface layer is loamy fine sand about 43 inches thick. It is light gray in the upper part and very pale brown in the lower part. The subsoil, to a depth of 75 inches, is mottled, light gray sandy clay loam.

The Albany soils have moderate permeability and medium available water capacity. The soil material is strongly acid or very strongly acid throughout.

Pelham soils are poorly drained. They make up about 15 percent of the association. Typically, the surface layer is very dark gray loamy sand about 6 inches thick. The subsurface layer is dominantly light brownish gray loamy sand and is about 26 inches thick. The subsoil, to a depth of 80 inches, is 29 inches of mottled, gray sandy clay loam; 15 inches of dominantly light brownish gray sandy loam with pockets of sandy clay loam; and 4 inches of mottled, light gray sandy clay loam with pockets of sandy loam.

The Pelham soils have moderate permeability and low available water capacity. The soil material is strongly acid or very strongly acid throughout the profile. Depth to the water table ranges from about 6 to 18 inches late in winter and early in spring during most years.

The somewhat poorly drained Ocilla soils make up about 15 percent of the association. Typically, the surface layer is dark gray loamy fine sand about 7 inches thick. The subsurface layer is loamy fine sand about 26 inches thick. The upper 7 inches is pale brown and has gray mottles, the next 9 inches is pale yellow, and the lower 10 inches is dominantly light yellowish brown. The subsoil, to a depth of 85 inches, is sandy clay loam. The upper 3 inches is brownish yellow and has gray, brown, and red mottles, the next 20 inches is gray and has brown and red mottles; the next 13 inches is mottled gray, brown, and red; and the lower 16 inches is gray and has yellow and red mottles.

The Ocilla soils have moderate permeability and medium available water capacity. The soil material is strongly acid or very strongly acid throughout the profile. The water table is within 1 to 2.5 feet of the surface layer in winter and early in spring during most years.

Included with these soils in mapping are a few areas of the moderately well drained Chipley soils on higher ridges. These areas range from 5 to 25 acres in size. Also included are a few areas of the poorly drained Osier soils and very poorly drained Paxville soils. These soils are in depressions and drainageways.

Most areas of this association are wooded. The potential for woodland is medium. Slash pine and loblolly pine are the best adapted species. Limitations are moderate for use of equipment on Albany and Ocilla soils and severe for the use of equipment on Pelham soils.

This association has medium potential for row crops and pasture. Drainage is required for satisfactory yields. Open ditches, tile drains, or a combination of both can be used to drain these soils. Tilth is generally good. Cover crops are needed to help maintain the content of organic matter and improve yields. Plant nutrients in these soils leach rapidly, and for this reason fertilizers are more effective if they are applied at intervals rather than in a single application.

This association has low potential for most urban uses. The high seasonal water table is a severe limitation for septic tank absorption fields. Albany soils in capability subclass IIIw; woodland suitability group 3w2. Pelham soils in capability subclass IVw; IIIw drained; woodland

suitability group 2w3. Ocilla soils in capability subclass IIIw; woodland suitability group 3w2.

Ae—Argent fine sandy loam. This deep, poorly drained, nearly level soil is on broad low lying areas and in poorly defined drainageways. Individual areas range from 20 to 500 acres in size.

Typically, the surface layer is very dark gray fine sandy loam about 5 inches thick. The upper part of the subsoil is gray sandy clay loam. Below that, the subsoil, to a depth of 76 inches, is gray clay. Yellow, brown, and red mottles are throughout the subsoil. The underlying material, to a depth of 80 inches, is gray sandy loam mottled with greenish gray.

Included with this soil in mapping are small areas of soils that have a sandy loam or clay loam surface layer. A few small areas of soils have a surface layer that is more than 20 inches thick. Small areas of soils that have an abrupt textural change between the surface layer and subsoil are included. Also included are a few intermingled areas of Bladen, Okeetee, Santee, and Wahee soils. The included soils make up about 30 percent of this map unit, but separate areas generally are less than 5 acres.

This soil is moderate in natural fertility and low in content of organic matter. It is medium acid through extremely acid to a depth of about 50 or 60 inches. Below this depth it ranges from medium acid through moderately alkaline. Permeability is slow, and available water capacity is high. Tilth is generally poor. This soil needs to be tilled under a fairly narrow range of moisture conditions to prevent clodding. The root zone is deep when not influenced by the water table.

This soil has medium potential for row crops and small grains. It has high potential for pasture. Intensive drainage measures and liming are needed in order to maintain satisfactory yields. Cover crops, including grasses and legumes in the cropping system, are needed to improve tilth and maintain the content of organic matter.

This soil has high potential for growing loblolly pine, slash pine, sweetgum, and American sycamore. It has severe management problems because of the limitations for the use of equipment.

This soil has low potential for most urban uses. In addition to its wetness, it has a moderate shrink-swell potential that cannot be easily overcome. The clayey subsoil percs slowly, and this coupled with its wetness is a severe limitation for septic tank absorption fields. Capability subclass IVw, IIIw drained; woodland suitability group 1w9.

Ag—Argent clay loam. This deep, poorly drained, nearly level soil is in depressions and poorly defined drainageways. Individual areas range from 20 to 200 acres in size.

Typically, the surface layer is very dark gray clay loam about 5 inches thick. The subsoil extends to a depth of about 71 inches. It is 41 inches of gray clay that has yellow, brown, and red mottles; 18 inches of light olive gray clay that has olive and brown mottles; and 12 inches of greenish gray sandy clay loam that has gray and red mottles. The underlying material, to a depth of 80 inches, is sandy loam that has greenish gray and brown mottles.

Included with this soil in mapping are small areas of soils that have a fine sandy loam or loam surface layer and small areas of soils that have an abrupt textural change between the surface layer and subsoil. Also included are a few intermingled areas of Bladen, Okeetee, Santee, and Wahee soils. The included soils make up about 30 percent of this map unit, but separate areas generally are less than 5 acres.

This soil is moderate in natural fertility and low in content of organic matter. It is medium acid through extremely acid to a depth of about 50 or 60 inches. Below this depth it ranges from medium acid through moderately alkaline. Permeability is slow, and available water capacity is high. Tilth is poor, and this soil should be tilled under a very narrow range of moisture conditions to prevent clodding. The root zone is deep when not influenced by the water table.

This soil has medium potential for row crops and small grains. It has high potential for pasture. Intensive drainage measures and liming are needed in order to maintain satisfactory yields. Cover crops, including grasses and legumes in the cropping system, are needed to improve tilth and maintain the content of organic matter.

This soil has high potential for growing loblolly pine, slash pine, sweetgum, and American sycamore. It has severe management problems because of the limitations for the use of equipment.

This soil has low potential for most urban uses. In addition to its wetness, it has a moderate shrink-swell potential that cannot be easily overcome. The clayey subsoil percs slowly, and this coupled with its wetness is a severe limitation for septic tank absorption fields. Capability subclass IVw, IIIw drained; woodland suitability group 1w9.

AN—Argent association. This association consists of poorly drained, nearly level soils on broad, low areas with shallow, poorly defined drainageways. These soils formed in clayey Coastal Plain sediment. The mapped areas are mostly long and range from 300 to 1,000 acres in size.

The poorly drained Argent soils make up about 80 percent of the association. Typically, the surface layer is very dark gray clay loam about 5 inches thick. The subsoil extends to a depth of 76 inches. It is 41 inches of gray clay that has yellow, brown, and red mottles; 18 inches of light olive gray clay that has olive and brown mottles; and 12 inches of greenish gray sandy clay loam that has gray and red mottles. The underlying material, to a depth of 80 inches, is gray sandy loam that has greenish gray and brown mottles.

The Argent soils have slow permeability, and high available water capacity. The soil is extremely acid through medium acid to a depth of about 50 or 60 inches. Below this depth it ranges from medium acid through moderately alkaline.

Included with these soils in mapping are areas of the somewhat poorly drained Okeetee and Wahee soils on low ridges. These areas range from 2 to 10 acres in size. Also included are areas of very poorly drained Santee and poorly drained Yonges soils. These areas range from 5 to 10 acres in size.

Nearly all of this association is wooded. The soils have high potential for growing loblolly pine, slash pine, sweetgum, and American sycamore. They have severe management problems because of limitations for the use of equipment.

This association has medium potential for row crops and small grain. It has high potential for pasture. Intensive drainage measures and liming are required for satisfactory crop growth. Cover crops, including grasses and legumes in the cropping system, are needed to improve tilth and maintain the content of organic matter.

This association has low potential for most urban uses. In addition to its wetness, it has a moderate shrink-swell potential that cannot be easily overcome. The clayey subsoil percs slowly, and this coupled with its wetness is a severe limitation for septic tank absorption fields. Capability subclass IVw, IIIw drained; woodland suitability group 1w9.

AO—Argent-Okeetee association. This association consists of poorly drained and somewhat poorly drained, nearly level soils that occur in an irregular pattern. The landscape is mainly a mass of broad, low lying areas with broad ridges that are only a few inches higher in elevation. The Argent soils are on the lower elevations and the Okeetee soils are on the ridges. These soils formed in clayey Coastal Plain sediment. The mapped areas are irregular in shape and range from 500 to 3,000 acres in size. Individual areas of each soil range from 10 to 300 acres in size.

The poorly drained Argent soils make up about 50 percent of the association. Typically, the surface layer is very dark gray clay loam about 5 inches thick. The subsoil extends to a depth of 76 inches. It is 41 inches of gray clay that has yellow, brown, and red mottles; 18 inches of light olive gray clay that has olive and brown mottles; and 12 inches of greenish gray sandy clay loam that has gray and red mottles. The underlying material to a depth of 80 inches or more is gray sandy loam that has greenish gray and brown mottles.

The Argent soils have slow permeability, and high available water capacity. The soil is extremely acid through medium acid to a depth of about 50 inches. Below this depth it ranges from medium acid through mildly alkaline.

The somewhat poorly drained Okeetee soils make up about 35 percent of the association. Typically, the surface layer is dark gray fine sandy loam about 5 inches thick. The subsurface layer is light brownish gray fine sandy loam about 2 inches thick. The subsoil to a depth of 78 inches is 4 inches of pale brown clay loam that has gray, brown, and red mottles, 7 inches of light brownish gray clay that has brown and red mottles, 32 inches of gray clay that has brown and red mottles, and 28 inches of light brownish gray sandy clay loam that has pockets of sandy loam and loamy sand that has red mottles.

The Okeetee soils have slow permeability, and medium available water capacity. The soils range from very strongly acid through slightly acid to a depth of about 50 to 60 inches. Below this depth it ranges from medium acid through moderately alkaline.

Included with these soils in mapping are a few small areas of the moderately well drained Eulonia soils on the higher ridges. Also included are a few areas of the very poorly drained Deloss and Santee soils on the lower elevations. Small areas of the somewhat poorly drained Wahee soils are on the intermediate ridges.

Nearly all of this association is wooded. The potential is high for growing loblolly pine, slash pine, sweetgum, water oak, and water tupelo. Because of their wetness, the soils in this association have limitations for the use of equipment, and this results in severe management problems.

This association has medium potential for row crops and small grains. It has high potential for pasture. Intensive drainage measures and liming, in addition to complete fertilizers, are needed in order to maintain satisfactory yields. These soils should be tilled under a narrow range of moisture conditions to prevent clodding. Cover crops, including grasses and legumes in the cropping system, are needed to improve tilth and maintain the content of organic matter.

This association has low potential for most urban uses. In addition to its wetness it has a moderate shrink-swell potential that cannot be easily overcome. The clayey subsoil percs slowly, and this coupled with its wetness is a severe limitation for septic tank absorption fields. Argent soils in capability subclass IVw; IIIw drained; woodland suitability group 1w9. Okeetee soils in capability subclass IIIw; woodland suitability group 2w8.

Ba—Baratari fine sand. This poorly drained, sandy, nearly level soil is in broad areas. Individual areas range from 10 to 500 acres in size.

Typically, the surface layer is black fine sand about 5 inches thick. The subsurface layer is light gray fine sand about 6 inches thick. The next layer is slightly brittle, dark reddish brown fine sand about 9 inches thick. Below that is light brownish gray and grayish brown fine sand about 35 inches thick. Next is slightly brittle, black fine sand about 15 inches thick. The underlying material to a depth of 80 inches is dark grayish brown fine sand with black, slightly brittle bodies.

Included with this soil in mapping are small areas of Polawana, Ridgeland, Rosedhu, Seewee, and Wando soils. Small, wet areas are included and are shown by a wet spot symbol. The included soils make up about 30 percent of this map unit, but separate areas generally are less than 5 acres.

This soil is low in natural fertility and content of organic matter. It is strongly acid through extremely acid in the upper 20 inches, and it is slightly acid through very

strongly acid below a depth of 20 inches. Permeability is moderate to moderately rapid, and available water capacity is very low. It has good tilth and can be worked throughout a wide range of moisture conditions. The root zone is partially restricted by the slightly brittle, weakly cemented organic stained layer at a depth of 10 to 25 inches.

This soil has low potential for growing row crops and small grains. Its potential is limited because of its sandy texture and organic stained layer. It has low potential for hay and pasture. Good tilth is easily maintained. Subsoiling to break up the organic stained layer is generally recommended. Adequate drainage and maintaining satisfactory fertility levels are also major concerns in management. Open ditches, tile drains, or a combination of both are used to drain this soil. Because of the leaching of plant nutrients in this soil, fertilizers are more effective if applied at intervals rather than in a single application. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, help maintain the content of organic matter and improve crop growth.

This soil has medium potential for growing slash pine, loblolly pine, and longleaf pine. Without a drainage system this soil has severe management problems, because wetness causes limitations for the use of equipment and it causes seedling mortality.

This soil has low potential for most urban uses. The high water table is a severe limitation for septic tank absorption fields and community development. In most areas this limitation is very difficult to overcome. Capability subclass VIw, IVw drained; woodland suitability group 3w2.

Bb—Bertie loamy fine sand. This deep, moderately well drained, nearly level soil is on uplands of the lower Coastal Plain. Individual areas range from 5 to 50 acres in size.

Typically, the surface layer is very dark grayish brown loamy fine sand about 7 inches thick. The subsurface layer is very pale brown loamy fine sand about 10 inches thick. The subsoil extends to a depth of 57 inches. It is 4 inches of dominantly yellowish brown fine sandy loam; 21 inches of yellowish brown sandy clay loam that has red, brownish yellow, and light brownish gray mottles; and 15 inches of light gray fine sandy loam that has red and brownish yellow mottles. The underlying material to a depth of 85 inches is mottled, light gray loamy fine sand.

Included with this soil in mapping are areas of soils that have a loamy sand surface layer and a few areas of soils that have a dominantly reddish subsoil or slopes that are as much as 4 percent along drainageways. Also included are a few intermingled areas of Chisolm, Coosaw, Eulonia, Wahee, and Yemassee soils. Small, wet, depressed areas are included and are shown by a wet spot symbol. The included soils make up about 35 percent of this map unit, but separate areas generally are less than 5 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It ranges from very strongly acid through slightly acid throughout the profile. Permeability is moderate, and available water capacity is medium. It has good tilth and can be worked throughout a fairly wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots.

This soil has high potential for growing row crops, small grains, hay, and pasture. Good tilth is easily maintained by returning crop residue to the soil. Drainage is needed on most of this soil in order to maintain high crop growth. Open ditches, tile drains, or a combination of both are used to drain this soil. With good management, row crops can be grown each year on this soil.

This soil has high potential for growing loblolly pine, slash pine, longleaf pine, and sweetgum. Moderate management problems arise, however, because of the limitations for the use of equipment.

This soil has medium potential for most urban uses. The seasonal high water table is a severe limitation for septic tank absorption fields. This limitation can be reduced in most areas with open ditches, tile drains, or a combination of both. Capability subclass IIw; woodland suitability group 2w8.

BC—Bertie-Coosaw-Tomotley association. This association consists of moderately well drained, somewhat poorly drained, and poorly drained, nearly level soils that are in an irregular pattern. The landscape is mainly low ridges and poorly defined drainageways. The moderately well drained Bertie soils commonly are on the higher elevations and adjacent to drainageways; the somewhat poorly drained Coosaw soils are on the low ridges; and the poorly drained Tomotley soils are in the poorly defined drainageways and depressions. All of these soils formed in loamy Coastal Plain sediment. The mapped areas are irregular in shape and range from 200 to 600 acres in size. Individual areas of each soil range from 5 to 50 acres in size.

The moderately well drained Bertie soils make up about 50 percent of the association. Typically, the surface layer is very dark grayish brown loamy fine sand about 7 inches thick. The subsurface layer is very pale brown loamy fine sand about 10 inches thick. The subsoil extends to a depth of 57 inches. It is 4 inches of dominantly yellowish brown fine sandy loam; 21 inches of yellowish brown sandy clay loam that has red, brownish yellow, and light brownish gray mottles; and 15 inches of light gray fine sandy loam that has red and brownish yellow mottles. The underlying material to a depth of 85 inches is mottled, light gray loamy fine sand.

The Bertie soils have moderate permeability, and medium available water capacity. They range from very strongly acid through slightly acid throughout the profile. The water table is 1.5 to 2.5 feet below the surface during winter and early in spring.

The somewhat poorly drained Coosaw soils make up about 20 percent of the association. Typically, the surface layer is dark grayish brown loamy fine sand about 7

inches thick. The subsurface layer is light brownish gray loamy fine sand about 20 inches thick. The subsoil to a depth of 85 inches is 4 inches of brownish yellow fine sandy loam that has brown and gray mottles, 7 inches of yellowish brown sandy clay loam that has gray, brown, and red mottles, 16 inches of gray sandy clay loam that has brown and red mottles, 23 inches of light brownish gray sandy clay loam that has reddish yellow and brownish yellow mottles, and 8 inches of light brownish gray fine sandy loam that has light gray, yellowish brown, and greenish gray mottles.

The Coosaw soils have moderate permeability and medium available water capacity. They are very strongly acid through medium acid throughout the profile. The water table is 1 to 2 feet below the surface late in winter and early in spring.

The poorly drained Tomotley soils make up about 15 percent of the association. Typically, the surface layer is very dark gray loamy fine sand about 8 inches thick. The subsurface layer is light gray loamy fine sand about 5 inches thick. The subsoil extends to a depth of 59 inches. It is 31 inches of gray sandy clay loam that has brown and red mottles; 8 inches of light gray sandy clay that has brown and red mottles; and 7 inches of light gray fine sandy loam that has brown, olive, and red mottles and pockets of sandy clay loam. The underlying material to a depth of 80 inches is light gray loamy fine sand that has brown mottles.

The Tomotley soils have moderately slow permeability and medium available water capacity. They are extremely acid through strongly acid to a depth of about 50 inches. Below this depth they range from extremely acid through medium acid. These soils are saturated with water late in winter and early in spring.

Included with these soils in mapping are a few areas of the poorly drained Argent soils in depressions and poorly defined drainageways. Also included are a few areas of the somewhat poorly drained Yemassee soils on the lower ridges.

About 90 percent of this association is wooded. The predominant forest type is pine. The potential for woodland is high to medium. Loblolly pine, slash pine, longleaf pine, sweetgum, and American sycamore are the best adapted species. Limitations for the use of equipment are moderate on the Bertie and Coosaw soils and severe on the Tomotley soils.

This association has high potential for row crops, small grains, hay, and pasture. Good tilth is easily maintained by returning crop residue to the soil. Drainage is needed on most of these soils in order to maintain maximum yields. Open ditches, tile drains, or a combination of both are used to drain these soils.

This association has low potential for most urban uses. For most of the soils in this association, the seasonal high water table is a severe limitation for septic tank absorption fields. Adequate drainage will reduce the severity of this limitation on most of these soils. Because of wetness the Bertie and Coosaw soils have moderate limitations for dwellings without basements and severe limitations for dwellings with basements. Tomotley soils have severe limitations for dwellings without basements. The Bertie and Coosaw soils have moderate limitations for recreational uses and the Tomotley soils have severe limitations for them. Bertie soils in capability subclass IIw; woodland suitability group 2w8. Coosaw soils in capability subclass IIIw; woodland suitability group 3w2. Tomotley soils in capability subclass IVw, IIIw drained; woodland suitability group 2w9.

Bd—Bladen fine sandy loam. This deep, poorly drained, nearly level soil is in broad low areas. Individual areas range from 20 to more than 100 acres in size.

Typically, the surface layer is very dark gray fine sandy loam about 5 inches thick. The subsurface layer is light brownish gray fine sandy loam about 3 inches thick. The subsoil to a depth of 69 inches is 9 inches of mottled, gray sandy clay, 30 inches of mottled, gray clay, and 22 inches of mottled, light olive gray sandy clay loam.

Included with this soil in mapping are small areas of soils that have a loam or clay loam surface layer and a few small areas of soils underlain by chert at a depth of about 40 inches. Also included are a few intermingled areas of Argent, Cape Fear, Nemours, Tomotley, and Wahee soils. The included soils make up about 20 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is moderate in natural fertility and low in content of organic matter. It is extremely acid through strongly acid throughout. Permeability is slow, and available water capacity is high. This soil has poor tilth and needs to be tilled in a narrow range of moisture conditions. The root zone is deep and easily penetrated by plant roots if not restricted by the commonly high water table.

This soil has high to medium potential for growing row crops and pasture. The generally poor tilth can be improved by the use of cover crops and returning crop residue to the soil. Drainage is a major concern in management. Because of the slow permeability of this soil, closely spaced open ditches are generally needed.

This soil has high potential for growing loblolly pine, slash pine, sweetgum, and water oak. Limitations for the use of equipment and seedling mortality cause severe management problems.

This soil has low potential for urban uses. Its wetness and slow permeability are severe limitations for septic tank absorption fields. Its wetness and possible flooding are severe limitations for dwellings, roads, and recreational uses. Capability subclass VIw, IIIw drained; woodland suitability group 2w9.

BeB—Blanton fine sand, 0 to 6 percent slopes. This deep, moderately well drained, nearly level and gently sloping soil is on broad uplands. Individual areas range from 5 to 50 acres in size.

Typically, the surface layer is gray fine sand about 8 inches thick. The subsurface layer is fine sand about 37 inches thick. It is light gray in the upper part and very

pale brown that has yellow and brown mottles in the lower part. The subsoil to a depth of 80 inches is 7 inches of light yellowish brown fine sandy loam, 8 inches of light yellowish brown fine sandy loam that has brown mottles, and 20 inches of light yellowish brown sandy clay loam that has red and gray mottles.

Included with this soil in mapping are a few areas of soils that have a loamy fine sand or loamy sand surface layer and a few areas that have a sandy clay subsoil. Also included are a few intermingled areas of Albany, Chipley, Lakeland, Ocilla, and Bonneau soils. Small, wet, depressed areas are included and are shown by a wet spot symbol. The included soils make up about 20 percent of this map unit, but separate areas generally are less than 5 acres in size.

This soil is low in natural fertility and content of organic matter. It is very strongly acid or strongly acid throughout the profile except where the surface layer has been limed. Permeability is moderate, and available water capacity is low. This soil has good tilth and can be worked throughout a wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots.

This soil has low potential for growing row crops and small grains. Its potential is limited because of its low water and nutrient holding capacity. It has medium potential for hay and pasture. Good tilth is easily maintained by returning crop residue to the soil. Soil blowing is a slight hazard on large, nearly level, cultivated fields, and gully erosion is a slight hazard on the gently sloping areas during cultivation. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help reduce runoff and control erosion.

This soil has medium potential for growing slash pine, loblolly pine, and longleaf pine. Limitations for the use of equipment and seedling mortality cause moderate management problems.

This soil has high potential for most urban uses. It has slight limitations for septic tank absorption fields, dwellings, and roads. Because of the deep, sandy surface and subsurface layers, it has moderate limitations for most recreational uses. Capability subclass IIIs; woodland suitability group 3s2.

BeC—Blanton fine sand, 6 to 10 percent slopes. This deep, moderately well drained, sloping soil is commonly adjacent to drainageways between relatively high ridges. Individual areas range from 5 to 40 acres in size and are generally long and narrow.

Typically, the surface layer is dark grayish brown fine sand about 8 inches thick. The subsurface layer is very pale brown fine sand about 47 inches thick. The subsoil to a depth of 65 inches is yellowish brown sandy clay loam that has brown mottles. Below that, to a depth of 70 inches is yellowish brown sandy loam that has yellow and gray mottles.

Included with this soil in mapping are a few areas of soils that have a loamy fine sand or loamy sand surface layer. Also included are a few intermingled areas of Chipley, Lakeland, Ocilla, and Bonneau soils. A few small areas of soils have slopes slightly less than 6 percent, and others have slopes slightly more than 10 percent. The included soils make up about 25 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is low in natural fertility and content of organic matter. It is very strongly acid or strongly acid throughout except where the surface layer has been limed. Permeability is moderate, and available water capacity is low. This soil has good tilth and can be worked throughout a wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots.

This soil has low potential for growing row crops and small grains. Its potential is limited because of its slope and its low water and plant nutrient holding capacity. It has medium potential for hay and pasture. Erosion is a moderate hazard if crops are grown. Farming on the contour, stripcropping, minimum tillage, and the use of cover crops, including grasses and legumes in the cropping system, are practices that help reduce runoff and control erosion.

This soil has medium potential for growing slash pine, loblolly pine, and longleaf pine. Management problems are moderate because of the limitations for use of equipment and seedling mortality.

This soil has high potential for most urban uses. It has slight limitations for septic tank absorption fields, dwellings, and roads. Because of its thick sandy surface and slopes, this soil has moderate limitations for camp and picnic areas and severe limitations for playgrounds. Management problems are moderate because of erosion and sediment control. Capability subclass IVs; woodland suitability group 3s2.

BK—Bohicket association. This association is made up of very poorly drained, nearly level soils that are flooded twice daily by saltwater. These soils are on broad tidal flats bordering the Atlantic Ocean and extending several miles inland along some of the larger rivers. They formed in silty and clayey marine sediment. The mapped areas that are not dissected by streams are in large delineations that range over 1,000 acres in size. The areas are difficult to traverse and were mapped by reconnaissance.

Typically, the surface layer is dark gray silty clay loam about 10 inches thick. The underlying material to a depth of 80 inches is 39 inches of dark gray silty clay, 6 inches of dark gray silty clay and very dark grayish brown fine sandy loam, 13 inches of greenish gray clay, and 12 inches of dark greenish gray clay.

The Bohicket soils have very slow permeability and high available water capacity. When it is continuously saturated by water, this soil ranges from slightly acid through moderately alkaline throughout. After air drying for 30 days, it is extremely acid.

Included with these soils in mapping are areas of Capers soils. They are on elevations only a few inches higher than the Bohicket soils, but they have higher bearing strength. Also included are areas of Handsboro soils that occupy positions similar to Bohicket soils but are

composed dominantly of organic matter. Small irregular shaped islands and mounds of dredged materials that are not covered by seawater are also included. The included soils make up 20 to 40 percent of this association.

Most of this soil is in marsh vegetation consisting of smooth cordgrass, needlegrass, and big cordgrass. The rest is bare. Because of the high content of salt and sulfur, the very low bearing strength, and the difficulty of water control, these soils are not suited for row crops, pasture, trees, or urban uses. They provide a natural habitat for marine life and wildlife. Capability subclass VIIIw; not assigned to a woodland suitability group.

BnA—Bonneau loamy sand, 0 to 2 percent slopes. This deep, moderately well drained, nearly level soil is on broad ridges. Individual areas range from 5 to 25 acres in size.

Typically, the surface layer is grayish brown loamy sand about 9 inches thick. The subsurface layer is about 15 inches of light yellowish brown loamy sand that has brown and yellow mottles. The subsoil extends to a depth of 65 inches. It is 7 inches of yellowish brown sandy loam, 20 inches of yellowish brown sandy clay loam that has red and brown mottles in the lower part, and 14 inches of brownish yellow sandy clay that has gray, yellow, and red mottles. The underlying material, to a depth of 83 inches, is mottled red, brown, yellow, and gray sandy clay loam that has pockets and strata of sandy loam and sandy clay.

Included with this soil in mapping are some long, narrow areas of soils adjacent to drainageways with more than 2 percent slopes. Also included are a few areas of soils that have more than a 20 percent decrease in the content of clay within a depth of 60 inches. A few small areas of soils have slightly more than 35 percent clay in the upper 20 inches of the subsoil. Included are a few intermingled areas of Blanton, Norfolk, and Ocilla soils. Small, wet, depressed areas are included and are shown by a wet spot symbol. The included soils make up about 20 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is very strongly acid or strongly acid throughout except where the surface layer has been limed. Permeability is moderate, and available water capacity is low to medium. This soil has good tilth and can be worked throughout a wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots.

This soil has medium to high potential for growing row crops and small grains. Its potential is slightly limited by its low to medium water and plant nutrient holding capacity. It has high potential for hay and pasture. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help reduce runoff, increase content of organic matter, and improve tilth and yields. Plant nutrients leach rapidly in this soil, and for this reason fertilizers are more effective if they are applied at intervals rather than in a single application.

This soil has a high potential for growing loblolly pine. It has moderate management problems because of the limitations for the use of equipment and seedling mortality.

This soil has medium potential for most urban uses. Late in winter and early in spring the water table is commonly within 3.5 to 5 feet of the surface. It creates a moderate limitation for septic tank absorption fields. This limitation can be minimized in most areas with an adequate drainage system. This soil has slight limitations for dwellings without basements. Because of its thick, sandy surface and subsurface layers, this soil has moderate limitations for recreational uses. Capability subclass IIs; woodland suitability group 2w2.

Bp—Borrow Pit. Borrow pits are excavated areas from which the surface soil, the subsoil, and in some instances, part of the substratum have been removed.

The larger borrow pits are in the vicinity of major highways. They are also on military installations where large quantities of fill material are used. A few large borrow pits are the result of commercial sand and fill operations. Many small borrow pits are throughout the survey area, generally near the roads and highways.

These pits range from less than an acre to about 50 acres in size. The smaller pits range from about 3 to 5 feet in depth, whereas the larger pits range from about 8 to 15 feet in depth. Areas less than 2 acres in size are shown on the soil map by a special symbol. Borrow pits that are deeper than 5 feet without drainage outlets generally contain water most of the year. Shallow pits without drainage outlets contain water during rainy periods.

The floor of these pits vary widely in texture and soil development. Onsite investigations are needed in order to make specific recommendations. When drained, many of these pits are suited to pine. Pits deeper than 3 feet below the seasonal low water table can be used for fish ponds or irrigation ponds.

Capability subclass VIIs; not assigned to a woodland suitability group.

BR—Buncombe association. This association consists of excessively drained, nearly level and undulating sandy soils. The landscape is mainly a series of high ridges. These soils formed in sandy alluvial sediment. The mapped areas are generally broad and elongated with the long axis paralleling the Savannah River. Areas range from 300 to 3,000 acres in size.

The excessively drained Buncombe soil makes up about 80 percent of the association. Typically, the surface layer is sand about 7 inches thick. The upper 3 inches of the surface layer is very dark grayish brown, and the lower 4 inches is yellowish brown. The underlying material to a depth of 90 inches is sand. The upper 16 inches is brownish yellow, and the lower 67 inches is very pale brown. Few to many fine black minerals and fine flakes of mica are in the underlying material.

The Buncombe soil has rapid permeability and low available water capacity. The soil is very strongly acid

through medium acid throughout the profile except where the surface layer has been limed. Depth to the seasonal high water table is more than 60 inches.

Included with this soil in mapping are areas of moderately well drained sandy soils in slight depressions and areas with slopes that are as much as 8 percent along drainageways. Also included are small areas of poorly drained and very poorly drained soils in narrow drainageways.

This association has medium potential for woodland, which is evidenced by most areas. Loblolly pine and longleaf pine are the predominant species. It has moderate management problems because of limitations for the use of equipment and seedling mortality. Seedling mortality can be reduced by bedding and planting in the furrow. This procedure will provide additional moisture to the seedling.

This association has low potential for growing row crops, small grains, hay, and pasture. Its potential is limited by its droughtiness and low capacity for holding nutrients. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help increase the water holding capacity, content of organic matter, and crop growth. Plant nutrients leach rapidly in these soils, and for this reason fertilizers are more effective when applied at intervals rather than in a single application.

This association has low to medium potential for urban uses. Soils on the ridges near the river are subject to periodic flooding and are unsuitable for urban development. Soils on the high ridges, generally more distant from the river, are not subject to flooding and have medium potential for urban uses. Soils in areas not subject to flooding perc rapidly, and because of the lack of filtration, they have moderate limitations for septic tank absorption fields. Soils in areas not subject to flooding have moderate limitations for recreational uses because of the loose, sandy nature of the soil. Capability subclass IIIs; woodland suitability group 2s8.

BS—Buncombe-Santee association. This association consists of excessively drained and very poorly drained, nearly level soils that are on irregularly spaced elongated ridges and draws that generally tend to parallel the Savannah River. The landscape is mainly a series of sandy ridges varying widely in width and ranging from 5 to 20 feet in height. These low lying draws are flooded or saturated by water during most of the year. The Buncombe soils are on sandy ridges and the Santee soils are in the very poorly drained draws. The Buncombe soils formed in sandy alluvial sediment transported by the Savannah River. The Santee soils formed in clayey marine sediment. In some places the Santee soils have been slightly altered by recent alluvial sediment. The mapped areas are generally broad and elongated with the long axis paralleling the Savannah River. Areas range from 300 to 1,600 acres in size. Individual areas of each soil range from 100 to 500 acres in size.

The excessively drained Buncombe soils make up about 50 percent of the association. Typically, the surface layer is sand about 7 inches thick. The upper 3 inches is very dark grayish brown, and the lower 4 inches is yellowish brown. The underlying material to a depth of 90 inches is sand. The upper 16 inches is brownish yellow, and the lower 67 inches is very pale brown. Few to many fine black minerals and fine flakes of mica are in the underlying material.

The Buncombe soils have rapid permeability and low available water capacity. They are very strongly acid through medium acid throughout the profile.

The poorly drained Santee soils make up about 30 percent of the association. Typically, the surface layer is black fine sandy loam about 7 inches thick. The subsoil extends to a depth of 53 inches. In sequence from the top, it is 9 inches of black clay, 24 inches of dominantly dark gray clay loam, and 13 inches of mottled, gray sandy clay loam. The underlying material to a depth of 68 inches is light olive gray sandy clay loam. Below that to a depth of 84 inches is light olive gray fine sandy loam.

The Santee soils have slow permeability and high available water capacity. The soil is strongly acid through neutral in the surface layer and medium acid through mildly alkaline in the subsoil and underlying material. Base saturation is more than 50 percent throughout the profile.

Included with these soils in mapping are a few areas of moderately well drained Eulonia soils on the intermediate ridges. Included are a few areas of the poorly drained Argent and Chastain soils on nearly level, low areas. Also included are a few areas of the sandy, very poorly drained Polawana soils that generally occur in the draws immediately adjacent to the sandy ridges and in the narrow draws that dissect the sandy ridges. These soils formed in a combination of marine sediment and alluvial deposits.

Nearly all of this association is in woodland. The predominant forest type on the ridges is pine, and the predominant forest type on the lower elevations is hardwoods. The potential for woodland is medium on the ridges and high on the lower elevations. Loblolly pine and longleaf pine are the better adapted species on the ridges, and loblolly pine, sweetgum, water tupelo, and American sycamore are the better adapted species on the lower elevations and in drainageways. The ridges have moderate management problems because of the limitations for the use of equipment and seedling mortality. The draws and lower elevations have severe management problems for the same reasons.

This association has low potential for growing row crops and small grains. Its potential is limited by the droughtiness and low capacity for holding nutrients on the Buncombe soils. Its potential is also limited by the difficulty of obtaining water control on the Santee soils. The soils in this association have low potential for hay and pasture. The ridges in this association, if used for row crops, need minimum tillage and maximum use of cover crops, including grasses and legumes in the cropping

system, to help improve the water holding capacity and content of organic matter. Plant nutrients leach rapidly on the sandy ridges, and for this reason fertilizers are more effective when applied at intervals rather than in a single application. The Santee soils need intensive water control measure if used for row crops or pasture.

This association has low potential for most urban uses. Only the higher sandy ridges are not subject to flooding. The Buncombe soils perc rapidly and have severe limitations for septic tank absorption fields. Because of their loose sand quality and susceptibility to flooding, the Buncombe soils have moderate or severe limitations for recreational development. The Santee soils, because of their wetness and frequent flooding, have severe limitations for septic tank absorption fields, dwellings, and recreational development. Buncombe soils in capability subclass IIIs; woodland suitability group 2s8. Santee soils in capability subclass VIw, drained IIIw; woodland suitability group 1w9.

Ca—Cape Fear loam. This very poorly drained, nearly level soil is on low, slightly concave areas and in poorly defined drainageways. Individual areas range from 20 to more than 500 acres in size.

Typically, the surface layer is black loam about 10 inches thick. The subsoil extends to a depth of 74 inches. It is 6 inches of very dark gray clay loam, 34 inches of gray clay that has gray, yellow, and brown mottles, and 24 inches of light gray sandy clay loam that has yellow and brown mottles. The underlying material to a depth of 80 inches is light gray loamy sand.

Included with this soil in mapping are a few areas of soils that have a fine sandy loam or clay loam surface layer, some areas of soils that do not decrease significantly in content of clay within a depth of 60 inches, and a few small areas of soils that are slightly acid below a depth of about 50 inches. A few intermingled areas of Argent, Bladen, Deloss, and Polawana soils are also included. The included soils make up about 30 percent of this map unit, but separate areas generally are less than 5 acres in size.

This soil is medium in natural fertility and content of organic matter. It is very strongly acid through medium acid throughout the profile except where the surface layer has been limed. Permeability is slow, and available water capacity is high. Tilth is fair, and this soil needs to be tilled under fairly optimum moisture conditions. The root zone is deep and easily penetrated by plant roots when not restricted by the water table.

This soil is unsuitable for row crops, small grains, hay, and pasture without a drainage system. It has high potential for growing row crops, small grains, and pasture when drained. Tilth can be improved by the use of cover crops and returning crop residue to the soil. Extensive drainage measures are necessary, if this soil is used for crops or pasture.

This soil has high potential for loblolly pine, sweetgum, water oak, water tupelo, and American sycamore. It has severe management problems because of limitations for the use of equipment and seedling mortality.

This soil has low potential for urban uses. Its wetness, frequent flooding, and slow percolation rate are severe limitations for septic tank absorption fields, dwellings, and recreational uses. Capability subclass VIw, IIIw drained; woodland suitability group 2w9.

CE—Capers association. This association consists of very poorly drained, nearly level soils that are on tidal flats. The landscape is one of marsh areas dissected by an occasional saltwater stream (fig. 1). The areas have a dense cover of marsh grass. The Capers soils generally occupy intermediate positions between the uplands and the soils that are flooded by seawater for longer periods and to greater depths. These soils formed in silty and clayey marine sediment. The mapped areas are irregular in shape, except those areas adjacent to tidal streams, are elongated, and parallel the streams. Individual areas range from a few small areas that are dissected by streams to more than 1,000 acres in size.

Capers soils make up about 70 percent of the association. Typically, the surface layer is about 22 inches thick. It is very dark gray silty clay loam in the upper part and dark gray clay loam in the lower part. The underlying material to a depth of 84 inches is 11 inches of gray clay loam, 12 inches of greenish gray clay, 23 inches of greenish gray sandy clay, and 16 inches of gray sandy clay loam that has pockets of fine sandy loam.

The Capers soils have very slow permeability. The soil ranges from neutral through moderately alkaline throughout. Pale yellow sulfur compounds are common on the surface of peds after drying, and the soil becomes extremely acid.

Included in the mapping are areas of Bohicket soils that are on slightly lower elevations and have lower bearing strength and areas of the organic Handsboro soils. Also included are small areas of Hobonny and Levy soils. Included in this association are small islands of both sandy and clayey soils. Because these soils are difficult to traverse, they were mapped by reconnaissance. The included soils make up about 30 percent of the association.

All of these soils are in marsh areas. Because of their salt and sulfur content, Capers soils are not suitable for row crops, improved pasture, woodland, or urban uses. They can be used for range pasture and as a natural habitat for wildlife. Capability subclass VIIIw; not assigned to a woodland suitability group.

ChA—Chipley fine sand, 0 to 2 percent slopes. This moderately well drained, sandy, nearly level soil is on broad ridges. Individual areas range from 10 to more than 100 acres in size.

Typically, the surface layer is dark grayish brown fine sand about 9 inches thick. The underlying material to a depth of 84 inches is fine sand, 11 inches of very pale brown that has yellowish brown mottles, 7 inches of very pale brown that has yellowish brown and light gray mottles, 21 inches of brownish yellow that has strong brown and light gray mottles, 12 inches is mottled light yellowish brown and light gray, and 24 inches is light gray and has very pale brown and yellowish brown mottles.

Included with this soil in mapping are areas of soils that have a loamy fine sand or loamy sand surface layer and small, narrow areas of soils adjacent to drainageways that have slopes ranging up to 6 percent. A few intermingled areas of Albany, Blanton, Echaw, and Lakeland soils are included. Also included are small, wet, depressed areas shown by a wet spot symbol. The included soils make up about 20 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is low in natural fertility and content of organic matter. It ranges from very strongly acid through medium acid throughout the profile. Permeability is rapid, and available water capacity is low. It has good tilth and can be worked throughout a wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots.

This soil has medium potential for growing row crops and small grains. Its potential is limited by its low water holding and plant nutrient holding capacity. It has medium to high potential for hay and pasture. Good tilth is easily maintained by returning crop residue to the soil. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help increase the water holding and plant nutrient holding capacity and improve crop growth. Drainage is recommended for certain crops in some areas. Plant nutrients leach rapidly in this soil, and for this reason fertilizers are more effective if applied at intervals rather than in a single application.

This soil has high potential for slash pine, loblolly pine, and longleaf pine. It has moderate management problems because of limitations for the use of equipment, and seedling mortality is a slight limitation.

This soil has medium potential for most urban uses. The water table is at a depth of 24 to 36 inches for 2 to 4 months during most years, and this is a severe limitation for septic tank absorption fields. Adequate drainage, where feasible, will minimize the severity of this limitation. Because of its wetness, this soil has a moderate limitation for dwellings without basements. It is considered to have a severe limitation for recreational uses because of its sandy texture. Capability subclass IIIs; woodland suitability group 2s2.

CK—Chipley-Pelham-Echaw association. This association consists of nearly level, moderately well drained sandy soils and poorly drained loamy soils that occur in an irregular pattern. The landscape is mainly one of broad ridges and depressional areas and poorly defined drainageways. The Chipley and Echaw soils are on the ridges, and the Pelham soils are in the depressions and poorly defined drainageways. All of these soils formed in sandy and loamy Coastal Plain sediment. The mapped areas are irregular in shape and range from 300 to 2,000 acres in size. Individual areas of each soil range from 10 to 200 acres in size.

The moderately well drained Chipley soils make up about 40 percent of the association. Typically, the surface layer is dark grayish brown fine sand about 9 inches thick. The underlying material to a depth of 84 inches is fine sand. It is 11 inches of very pale brown, 7 inches of very pale brown that has yellowish brown and light gray mottles, 21 inches of brownish yellow that has strong brown and light gray mottles, 12 inches of mottled, light yellowish brown and light gray, and 24 inches of light gray that has very pale brown and yellowish brown mottles.

The Chipley soils have rapid permeability and low available water capacity. The soil is very strongly acid through medium acid throughout the profile.

The poorly drained Pelham soils make up about 20 percent of the association. Typically, the surface layer is very dark gray loamy sand about 6 inches thick. The subsurface layer is dominantly light brownish gray loamy sand about 26 inches thick. The subsoil to a depth of 80 inches is 29 inches of mottled, gray sandy clay loam, 15 inches of dominantly light brownish gray sandy loam with pockets of sandy clay loam, and 4 inches of mottled, light gray sandy clay loam with pockets of sandy loam.

The Pelham soils have moderate permeability and low available water capacity. The soil is strongly acid or very strongly acid throughout the profile. Depth to the water table ranges from about 6 to 18 inches late in winter and early in spring during most years.

The moderately well drained Echaw soils make up about 10 percent of the association. Typically, the surface layer is dark grayish brown loamy fine sand about 8 inches thick. The subsurface layer is loamy fine sand about 26 inches thick. It is light yellowish brown in the upper 20 inches and light brownish gray in the lower 6 inches. The subsoil to a depth of 80 inches is 6 inches of brittle, dark brown loamy sand, 24 inches of brittle, dark reddish brown loamy sand, and 16 inches of dark reddish brown sand.

The Echaw soils have moderately rapid permeability and low available water capacity. The soil is very strongly acid through medium acid throughout the profile. Depth to the water table ranges from 2.5 to 5 feet during winter and spring.

Included with these soils in mapping are a few areas of the somewhat poorly drained Ocilla and Lynchburg soils on the intermediate ridges. Also included are a few areas of the very poorly drained Paxville soils in depressions and drainageways and a few areas of the poorly drained Lynn Haven soils in low, nearly level areas. Each of the included soils make up less than 10 percent of the association but combined make up about 30 percent of the association.

Most areas of this association are wooded. Pine is the predominant forest type on the higher elevations, and a variety of hardwoods with some pine are predominant on the lower elevations. It has high to medium potential for woodland. Loblolly pine, slash pine, and longleaf pine are the better adapted species on the ridges. Sweetgum, black gum, water oak, and loblolly pine are adapted to the depressional areas and drainageways. The ridges have moderate management problems because of limitations

for the use of equipment and slight limitations of seedling mortality. The depressions and drainageways have severe management problems because of limitations for the use of equipment and seedling mortality.

The ridges in this association have medium potential for growing row crops and small grains (fig. 2). They have medium potential for hay and pasture. Good tilth is easily maintained by returning crop residue to the soil. Drainage is recommended for certain crops in some areas. Open ditches, tile drains, or a combination of both can be used to drain these soils. Plant nutrients leach rapidly in these soils, and for this reason fertilizers are more effective if applied at intervals rather than in a single application.

This association has low potential for most urban uses. All of the major soils of this association have severe limitations for septic tank absorption fields because of their seasonal high water table. This association has slight to severe limitations for dwellings and moderate to severe limitations for recreational uses. Chipley soils in capability subclass IIIs; woodland suitability group 2s2. Pelham soils in capability subclass IVw, IIIw drained; woodland suitability group 2w3. Echaw soils in capability subclass IIIw; woodland suitability group 3w2.

CmB—Chisolm loamy fine sand, 0 to 6 percent slopes. This deep, well drained or moderately well drained, nearly level and gently sloping soil is on the higher ridges in the Lower Coastal Plain. Individual areas range from 5 to about 50 acres in size.

Typically, the surface layer is grayish brown loamy fine sand about 7 inches thick. The subsurface layer is very pale brown loamy fine sand about 18 inches thick. The subsoil extends to a depth of 57 inches. It is 20 inches of yellowish red sandy clay loam that has red and brown mottles and 12 inches of strong brown fine sandy loam that has a few light brownish gray mottles. The underlying material to a depth of 80 inches is loamy fine sand. It is 11 inches of reddish yellow that has strong brown mottles and 12 inches of pale yellow that has yellow mottles.

Included with this soil in mapping are a few areas of soils that have a loamy sand, fine sand, or sand surface layer and a few small areas of soils that have a sandy clay subsoil. Also included are a few intermingled areas of Bertie, Coosaw, and Eddings soils. Small, wet, depressed areas are included and are shown by a wet spot symbol. The included soils make up about 30 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is low in natural fertility and content of organic matter. It is very strongly acid through medium acid in the surface and subsurface layers and in the subsoil. The underlying material is very strongly acid or strongly acid. Permeability is moderate, and available water capacity is low. This soil has good tilth and can be worked throughout a wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots.

This soil has medium to high potential for growing row crops and small grains. Its potential is slightly limited because of the moderately thick sandy surface and subsurface layers. These layers have a relatively low water holding and low plant nutrient holding capacity. This soil has medium to high potential for hay and pasture. Good tilth is easily maintained by returning crop residue to the soil. Soil blowing is a slight hazard in large cultivated fields. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help increase available water capacity, increase fertility level, and restrict soil blowing.

This soil has medium potential for growing loblolly pine, slash pine, and longleaf pine. It has moderate management problems because of limitations for the use of equipment and seedling mortality.

This soil has medium to high potential for most urban uses. Depth to the seasonal high water table is a moderate limitation for septic tank absorption fields in some areas. This limitation can generally be overcome by good design and careful installation procedures or by a good drainage system. It has slight limitations for dwellings without basements. The thick sandy surface is a moderate limitation for recreational uses. Capability subclass IIs; woodland suitability group 3s2.

Co—Coastal Beaches. Coastal Beaches consists of sandy shorelines that border the Atlantic Ocean. They are mainly on the ocean side of the more seaward sea islands and are covered twice daily by tides. Coastal Beaches are nearly level or gently sloping toward the ocean.

Typically, they are light gray fine sand and commonly have narrow bands of gray to very dark gray fine sand. These bands occur at irregular intervals below the surface. They are neutral through moderately alkaline and are highly saline. They contain varying amounts of shells and shell fragments. Many fine black minerals occur in most areas.

Most of the Coastal Beaches are unstable, and in most areas they are moving inland at the rate of a few inches to more than a foot each year. There are a few areas where the beaches are enlarging. Erosion of the Coastal Beaches and its deposits are related to tidal currents and the direction of storm and hurricane winds. Erosion of the beaches is a constant problem and expensive to control. Jetties are built in some places to help stabilize the beaches.

Coastal Beaches are used heavily in the summer by bathers, and surf fishers. They are unsuited for most other uses. Capability subclass VIIIs; not assigned to a woodland suitability group.

Cs—Coosaw loamy fine sand. This deep, somewhat poorly drained, nearly level soil is on low ridges of the Lower Coastal Plain. Individual areas range from 5 to 50 acres in size.

Typically, the surface layer is dark grayish brown loamy fine sand about 7 inches thick. The subsurface layer is light brownish gray loamy fine sand about 20 inches thick. The subsoil to a depth of 85 inches is 4 inches of brownish yellow fine sandy loam that has brown and gray mottles, 7 inches of yellowish brown sandy clay

loam that has gray, brown, and red mottles, 16 inches of gray sandy clay loam that has brown and red mottles, 23 inches of light brownish gray sandy clay loam that has reddish yellow and brownish yellow mottles, and 8 inches of light brownish gray fine sandy loam that has light gray, yellowish brown, and greenish gray mottles.

Included with this soil in mapping are a few areas of soils that have a loamy sand or fine sand surface layer and a few areas of soils that have layers of sandy clay in the subsoil. Also included are a few intermingled areas of Bertie, Chisolm, Eddings, and Murad soils. Small, wet, depressed areas are included and are shown by a wet spot symbol. The included soils make up about 10 to 30 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is low in natural fertility and content of organic matter. Except where limed, it is very strongly acid through medium acid to a depth of about 31 inches. It is very strongly acid or strongly acid in the lower horizons. Permeability is moderate, and available water capacity is medium. This soil has good tilth and can be worked throughout a wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots.

This soil has medium to high potential for growing row crops and small grains. Its potential is slightly limited because of its depth to the subsoil and lack of drainage. It has medium to high potential for hay and pasture. Good tilth is easily maintained by returning crop residue to the soil. Open ditches, tile drains, or a combination of both are used to drain this soil. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help improve the water holding and plant nutrient holding capacity.

This soil has medium potential for growing slash pine and loblolly pine. It has moderate management problems because of limitations for the use of equipment and seedling mortality.

This soil has medium potential for most urban uses. Because of its wetness it has severe limitations for septic tank absorption fields and moderate limitations for dwellings without basements. These limitations can be minimized with a good drainage system. This soil has moderate limitations for most recreational uses because of its sandy surface texture and lack of drainage. Capability subclass IIIw; woodland suitability group 3w2.

Cx—Coxville fine sandy loam. This deep, poorly drained, nearly level soil is in low depressional areas, and along drainageways. Individual areas range from 5 to more than 50 acres in size.

Typically, the surface layer is very dark gray fine sandy loam about 8 inches thick. The subsurface layer is gray fine sandy loam about 6 inches thick. The subsoil to a depth of 84 inches is 4 inches of mottled, gray sandy clay loam, 9 inches of mottled, gray clay, 38 inches of mottled, gray clay loam, and 19 inches of mottled, light gray sandy clay loam.

Included with this soil in mapping are a few areas of soils that have a sandy loam, loam, or silt loam surface layer. Also included are a few areas of soils where the clay content decreases by more than 20 percent within a depth of 60 inches. A few intermingled areas of Lynchburg, Paxville, and Rains soils are included. The included soils make up 10 to 20 percent of this map unit, but separate areas generally are less than 2 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is very strongly acid or strongly acid throughout the profile except where the surface layer has been limed. Permeability is moderately slow, and available water capacity is high. This soil needs to be tilled within a fairly narrow range of moisture conditions to prevent clodding. The root zone is deep and easily penetrated by plant roots when not limited by a high water table.

This soil has high potential for growing row crops and pasture grasses. Its potential is somewhat limited because of its lack of drainage and its moderately slow permeability. Well designed and carefully installed drainage systems are needed on this soil when used for row crops, small grains, and pasture. Cover crops, including grasses and legumes in the cropping system, help improve tilth and productivity.

This soil has high potential for growing loblolly pine, slash pine, sweetgum, and water oak. It has severe management problems because of limitations for the use of equipment and seedling mortality.

This soil has low potential for urban uses. Because of its wetness and slow percolation it has severe limitations for septic tank absorption fields. It has severe limitations, because of its wetness, for dwellings and recreational uses. Capability subclass IVw, IIIw drained; woodland suitability group 2w9.

De—Deloss fine sandy loam. This deep, very poorly drained, nearly level soil is in low, depressional areas and along drainageways on the Lower Coastal Plain. Individual areas range from 5 to more than 50 acres in size.

Typically, the surface layer is black fine sandy loam about 13 inches thick. The subsurface layer is grayish brown fine sandy loam about 5 inches thick. The subsoil extends to a depth of 56 inches. It is 26 inches of dark gray sandy clay loam that has brownish and reddish mottles, 7 inches of mottled, gray sandy clay loam, and 5 inches of mottled, grayish brown sandy clay loam that has pockets of fine sandy loam. The underlying material to a depth of 67 inches is mottled, grayish brown fine sandy loam, and beneath this is light gray loamy fine sand.

Included with this soil in mapping are a few areas of soils that have a loam or loamy fine sand surface layer. Also included are a few intermingled areas of Cape Fear, Polawana, Tomotley, and Williman soils. The included soils make up about 20 to 30 percent of this map unit, but separate areas are generally less than 5 acres in size.

This soil is medium in natural fertility and content of organic matter. It ranges from very strongly acid through slightly acid in the surface and subsurface layers; it is very strongly acid or strongly acid in the subsoil; and it ranges from very strongly acid through medium acid in

the underlying material. Permeability is moderate, and available water capacity is medium. It has fair tilth and can be worked through a fairly wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots when not limited by a high water table.

This soil has high potential for row crops and pasture. Satisfactory tilth can be maintained by returning crop residue to the soil. Intensive drainage measures are needed on this soil for satisfactory crop growth. Open ditches, tile drains, or a combination of both are used to drain this soil.

This soil has high potential for loblolly pine, slash pine, American sycamore, water tupelo, and sweetgum. It has severe management problems because of limitations for the use of equipment and seedling mortality.

This soil has low potential for urban uses. Because of its wetness, it has severe limitations for septic tank absorption fields, dwellings, and most urban uses. The cost of water control measures to reduce these limitations to satisfactory levels is generally prohibitive. Capability subclass VIw, IIIw drained; woodland suitability group 1w9.

Ec—Echaw loamy fine sand. This deep, moderately well drained, sandy, nearly level soil is on uplands. Individual areas range from 5 to more than 50 acres in size.

Typically, the surface layer is dark grayish brown loamy fine sand about 8 inches thick. The subsurface layer is loamy fine sand about 26 inches thick. The upper 20 inches is mottled, light yellowish brown, and the lower 6 inches is mottled, light brownish gray. The subsoil to a depth of 80 inches is 6 inches of slightly brittle, dark brown loamy sand, 24 inches of brittle, dark reddish brown loamy sand, and 16 inches of dark reddish brown sand.

Included with this soil in mapping are some areas of soils that have a loamy sand or fine sand surface layer, a few areas of soils that have a weakly developed illuvial humus layer immediately below the surface layer, and a few areas of soils that have gray mottles immediately below the surface layer and are somewhat poorly drained. Also included are a few intermingled areas of Albany, Chipley, Lynn Haven, and Pelham soils. The included soils make up about 20 to 30 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is low in natural fertility and content of organic matter. It is very strongly acid through medium acid throughout except where the surface layer has been limed. Permeability is moderately rapid, and available water capacity is low. It has good tilth and can be worked throughout a wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots.

This soil has medium potential for growing row crops and small grains. Its potential is limited by its relatively low available water capacity and low plant food retention capacity. It has medium potential for hay and pasture. Good tilth is easily maintained by returning crop residue to the soil. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help improve water holding and plant nutrient holding capacity and improve productivity.

This soil has medium potential for growing longleaf pine, loblolly pine, and slash pine. It has moderate management problems because of limitations for the use of equipment.

This soil has medium potential for most urban uses. It has severe limitations for septic tank absorption fields because of the high water table in winter and early in spring. This limitation can be minimized in most areas with a good drainage system. It has only slight limitations for dwellings without basements. It has moderate limitations for most recreational uses because of its thick sandy surface and subsurface layers. Capability subclass IIIw; woodland suitability group 3w2.

EdB—Eddings fine sand, 0 to 6 percent slopes. This deep, well drained, nearly level and gently sloping soil is on the higher ridges on uplands of the Lower Coastal Plain. Slopes are dominantly less than 2 percent but range up to 6 percent along drainageways. Individual areas mostly range from 5 to 25 acres in size.

Typically, the surface layer is dark grayish brown fine sand about 14 inches thick. The subsurface layer is fine sand about 30 inches thick. It is yellowish brown in the upper part and very pale brown in the lower part. The subsoil to a depth of 84 inches is 13 inches of yellowish brown fine sandy loam, 9 inches of mottled, brownish yellow sandy clay loam, and 18 inches of mottled, brownish yellow, yellowish red, and light gray fine sandy loam with pockets of sandy clay loam.

Included with this soil in mapping are a few areas of soils that have a loamy fine sand surface layer and a few narrow areas of soils adjacent to drainageways that have slightly more than 6 percent slopes. Also included are a few intermingled areas of Chisolm, Coosaw, Murad, and Seabrook soils. Small, wet, depressed areas are included and are shown by a wet spot symbol. The included soils make up about 20 to 30 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is low in natural fertility and content of organic matter. It is very strongly acid through slightly acid in about the upper 60 inches and is very strongly acid or strongly acid below about 60 inches. Permeability is moderate, and available water capacity is low. It has good tilth and can be worked throughout a wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots.

This soil has medium potential for growing row crops and small grains. Its potential is limited by its relatively low available water and plant food retention capacity. It has medium potential for hay and pasture. Good tilth is easily maintained by returning crop residue to the soil. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help increase the water holding and plant nutrient holding capacity and increase productivity.

This soil has medium potential for growing slash pine, longleaf pine, and loblolly pine. It has moderate management problems because of limitations for the use of equipment and seedling mortality. Furrowing helps

reduce seedling mortality by increasing the available water and reducing the plant competition to the seedlings.

This soil has high potential for most urban uses. It has only slight limitations for septic tank absorption fields and dwellings. Because of its thick sandy surface and subsurface layers, this soil has moderate limitations for camp and picnic areas and severe limitations for playgrounds, paths, and trails. Capability subclass IIIs; woodland suitability group 3s2.

Ee—Eulonia fine sandy loam. This deep, moderately well drained, nearly level soil is on ridges of the Lower Coastal Plain. Individual areas mostly range from 5 to 24 acres in size.

Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer is light yellowish brown fine sandy loam about 8 inches thick. The subsoil extends to a depth of 58 inches. It is 6 inches of red sandy clay, 10 inches of red clay that has brown and gray mottles, 19 inches of light gray sandy clay that has red and brown mottles, and 10 inches of light gray sandy clay loam that has red and brown mottles. The underlying material to a depth of about 84 inches is yellowish red sandy loam that has gray and brown mottles.

Included with this soil in mapping are a few areas of soils that have a sandy loam, loamy fine sand, or loamy sand surface layer. A few small areas of soils have a combined surface layer and subsurface layer which is slightly thicker than 20 inches. Included are a few narrow areas of soils adjacent to drainageways that have slopes ranging from 2 to 8 percent, and a few small areas of soils that have more than 35 percent base saturation at 50 inches below the top of the subsoil. Also included are a few intermingled areas of Nemours and Wahee soils. Small, wet, depressed areas are included and are shown by a wet spot symbol. The included soils make up about 20 to 30 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is very strongly acid through medium acid throughout the profile except where the surface layer has been limed. Permeability is moderately slow, and available water capacity is medium. Tilth is generally good in the surface and subsurface layers. The clay content of the subsoil limits the range of moisture conditions under which the soil can be tilled. The root zone is deep, and it is fairly easy for plant roots to penetrate it.

This soil has high potential for growing row crops, small grains, hay, and pasture. Drainage is needed on most of this soil in order to maintain maximum crop growth. Open ditches, tile drains, or a combination of both are used to drain this soil. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help improve tilth and productivity.

This soil has high potential for growing loblolly pine, slash pine, water oak, and sweetgum. It has moderate management problems because of limitations for the use of equipment and seedling mortality.

This soil has moderate potential for most urban uses. The clayey subsoil percs slowly, and this along with a seasonal high water table is a severe limitation for septic tank absorption fields. The severity of this limitation can be minimized with an adequate drainage system and by increasing the size of the absorption area. Because of its wetness, this soil has a moderate limitation for dwellings and most recreational uses. Capability subclass IIw; woodland suitability 2w8.

EU—Eulonia association. This association dominantly consists of moderately well drained, nearly level soils with intermingled areas of somewhat poorly drained, poorly drained, and very poorly drained soils. The landscape is mainly one of ridges, depressions, and narrow drainageways. The Eulonia soils are on the higher ridges. They formed in clayey Coastal Plain sediment. The mapped areas are irregular in shape and range from 200 to 1,000 acres in size. Individual areas of each soil range from 5 to 50 acres in size.

The moderately well drained Eulonia soils make up about 70 percent of the association. Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer is light yellowish brown fine sandy loam about 8 inches thick. The subsoil extends to a depth of 58 inches. It is 6 inches of red sandy clay, 10 inches of red clay that has brown and gray mottles, 19 inches of light gray sandy clay that has red and brown mottles, and 10 inches of light gray sandy clay loam that has red and brown mottles.

The Eulonia soils have moderately slow permeability and medium available water capacity. The soil is very strongly acid through medium acid throughout except where the surface layer has been limed.

Included with this association in mapping are areas of the poorly drained Bladen soils in low areas, areas of the very poorly drained Cape Fear soils in depressions and drainageways, areas of the moderately well drained Nemours soils on the higher ridges, and a few areas of the somewhat poorly drained Wahee soils on the low ridges. All of these soils formed in clayey Coastal Plain sediment.

About 75 percent of this association is wooded. The rest is cropland and pasture.

The moderately well drained Eulonia soils in this association have high potential for growing row crops, small grains, hay, and pasture. Drainage is needed on most of these soils in order to maintain satisfactory crop growth. The included soils in this association, with the exception of the Nemours soils, are more poorly drained and are not as well suited to row crops and small grains.

This association has high potential for woodland. Loblolly pine, slash pine, water oak, and sweetgum are the better adapted species (fig. 3). This association has moderate management problems because of limitations for the use of equipment and seedling mortality on the ridges, and it has severe management problems because

of limitations for the use of equipment and seedling mortality in the low areas, depressions, and drainageways.

The moderately well drained Eulonia soils in this association have medium potential for most urban uses. The clayey subsoil percs slowly, and this along with a seasonal high water table is a severe limitation for septic tank absorption fields. The severity of this limitation can be minimized with an adequate drainage system and by increasing the size of the absorption area. Because of its wetness, these soils have a moderate limitation for dwellings and most recreational uses. The included soils in this association, excluding the Nemours soils, have low or very low potential for urban uses. Capability subclass IIw; woodland suitability group 2w8.

FA—Fluvaquents and Udipsamments. This map unit consists of very poorly drained clayey soils and excessively drained sandy soils. These nearly level soils formed in material that was dredged from the Savannah River shipping channel and dumped on marshland. In some areas the material is confined by dikes. These soils are on the north side of the Savannah River, extending from the vicinity of Savannah to the Atlantic Ocean. The areas range in width from about 1,000 to 6,000 feet. The dredged sediment ranges in thickness from a few inches to more than 10 feet.

The dredged sediment has been deposited on most areas at irregular intervals for many years. Generally, the soils that are nearest to the dumping points have very coarse texture, and those that are at a greater distance from the dumping points have very fine texture. Because of the randomization of the dumping points, strong stratification occurs in the intermediate areas.

The Fluvaquents make up about 75 percent of this map unit, and the Udipsamments make up about 25 percent.

The Fluvaquents occupy the lower elevations in the map unit and are at the greater distance from the dumping points. At the more distant areas these soils are dominantly silty clay and are either gray or black. Upon drying, the soil forms cracks 2 to 3 inches wide and 6 to 12 inches deep in places. In some areas the sulfur content of these soils is sufficiently high that if drained or air dried for 30 days or more they become extremely acid.

The Udipsamments occupy the higher elevations in the map unit. In the areas confined by dikes, they tend to parallel the dikes closest to the river which is near the dumping sites. They range in width from about 200 feet to about 1,000 feet. In areas not confined by dikes, the Udipsamments are near the dumping sites. At the dumping site the soils are dominantly coarse sand and have few to many fine pebbles and shell fragments. As the distance from the dumping sites increases, these soils become finer textured. Intermediate areas are highly stratified.

The Fluvaquents and Udipsamments are being used only for wildlife habitat for which they are poorly suited. Shrubs, weeds, and grasses are sparse on the Udipsamments and range from sparse to dense on the Fluvaquents.

Onsite investigations are necessary for determining the suitability for any land use. Fluvaquents not assigned to capability subclass; not assigned to woodland suitability group. Udipsamments not assigned to capability subclass; not assigned to woodland suitability group.

Fb—Fripp-Baratari complex. This complex consists of excessively drained and poorly drained soils that occur in a regular and repeating pattern. The landscape is mainly one of narrow ridges and troughs with the long axis paralleling the shoreline. The ridges and troughs vary widely in height and width. The main ridges are about 12 feet in height and 200 feet apart. Intermediate ridges and troughs often occur between the tallest ridges and lowest troughs. The Fripp soils are on the ridges and the Baratari soils are in the troughs. All of these soils formed in sandy marine sediment. The mapped areas are mostly long and narrow and range from 5 to more than 500 acres in size. Individual areas of each soil range from 2 to 20 acres in size.

The excessively drained Fripp soils make up about 60 percent of the complex. Slopes are short and range from 2 to 30 percent. Typically, the surface layer is grayish brown fine sand about 5 inches thick. The underlying material, to a depth of about 90 inches, is fine sand. It is 16 inches of pale yellow, 31 inches of very pale brown, and 38 inches of white that has light brownish gray horizontal streaks.

The Fripp soils have rapid permeability and very low available water capacity. The soil is medium acid through mildly alkaline throughout.

The poorly drained, nearly level Baratari soils make up about 35 percent of the complex. Typically, the surface layer is black fine sand about 5 inches thick. The subsurface layer is light gray fine sand about 6 inches thick. The next layer is slightly brittle, dark reddish brown fine sand about 9 inches thick. Below that is fine sand about 35 inches thick. It is light brownish gray in the upper part and grayish brown in the lower part. The next 15 inches is slightly brittle, black fine sand. The underlying material to a depth of 80 inches is dark grayish brown fine sand with black, slightly brittle bodies.

The Baratari soils have moderate to moderately rapid permeability, and very low available water capacity. The soil is extremely acid through strongly acid in about the upper 20 inches and very strongly acid through slightly acid below about 20 inches.

Included with these soils in mapping are a few small areas of Bohicket and Capers soils that are flooded by high tides. Also included are a few small areas of the very poorly drained Polawana soils.

Most areas of this complex are wooded. Because of their proximity to the coast, however, many areas are being developed for homes and recreational uses. The potential of this complex for crops and pasture is low because of its topography and very low water holding capacity.

This complex has medium potential for woodland. Slash pine, longleaf pine, and loblolly pine are the better

adapted species. It has moderate to severe management problems because of limitations for the use of equipment and seedling mortality.

This complex has low potential for most urban uses; however, because of its proximity to the coast, many summer homes and some permanent residences are being constructed on these soils. Golf courses, camping areas, and picnic areas are also being developed on this complex. The Fripp soils have moderate limitations for septic tank absorption fields because of their slope. The Baratari soils have severe limitations because of their wetness. Fripp soils in capability subclass VIIs; woodland suitability group 4s2. Baratari soils in capability subclass VIw; woodland suitability group 3w2.

GoA—Goldsboro loamy fine sand, 0 to 2 percent slopes. This deep, moderately well drained, nearly level soil is on uplands of the Coastal Plain. Individual areas range from mostly 10 to 25 acres in size.

Typically, the surface layer is dark grayish brown loamy fine sand about 6 inches thick. The subsurface layer is pale brown loamy fine sand about 7 inches thick. The subsoil to a depth of 80 inches is 12 inches of dominantly yellowish brown sandy clay loam, 13 inches of mottled, pale brown sandy clay loam, 27 inches of mottled, light gray sandy clay loam, and 15 inches of mottled, light gray sandy loam.

Included with this soil in mapping are a few areas of soils that have a loamy sand, sandy loam, or fine sandy loam surface layer. Included are a few areas of soils that have sandy clay in the lower part of the subsoil. Also included are a few intermingled areas of Bonneau, Lynchburg, Norfolk, and Ocilla soils. A few areas of soils, included with this soil, have a decrease in clay content of more than 20 percent within a depth of 60 inches. Small, wet areas are included and are shown by a wet spot symbol. The included soils make up about 10 to 30 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is very strongly acid or strongly acid throughout except where the surface layer has been limed. Permeability is moderate, and available water capacity is medium. Tilth is fair to good, and it can be worked through a fairly wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots.

This soil has high potential for growing row crops, small grains, hay, and pasture. Good tilth is easily maintained by returning crop residue to the soil. Drainage is needed on this soil in order to maintain consistently good crop growth. Open ditches, tile drains, or a combination of both are used to drain this soil. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help increase available water capacity and improve tilth and yields.

This soil has high potential for loblolly pine, slash pine, longleaf pine, and sweetgum. There are no major limitations for woodland use or management.

This soil has moderate potential for most urban uses. It has a severe limitation for septic tank absorption fields because of a seasonal high water table. The severity of this limitation can be minimized by installing a good drainage system and increasing the size of the absorption area. It is well suited for dwellings without basements and for recreational uses. Capability subclass IIw; woodland suitability group 2w8.

HA—Handsboro soils. These nearly level soils consist of organic materials that are flooded twice daily or frequently by seawater. They have a high content of salt and sulfur. The landscape is one of broad marsh areas with a dense cover of marsh grasses that is broken with tidal streams. These soils formed in herbaceous and woody plant remains and a stratum of loamy and clayey mineral sediment. Individual areas range from 20 to more than 1,000 acres in size.

Typically, the surface layer is dark gray mucky silty clay loam about 4 inches thick. The next layer is very dark gray muck about 23 inches thick. Below this is reddish black muck about 28 inches thick. The next layer to a depth of 84 inches is black muck. These soils range from medium acid through moderately alkaline in their natural saturated condition. After air drying for 30 days or more they become extremely acid.

These soils are commonly in large delineations that are about 60 percent Handsboro soils and about 30 percent soils that are closely similar and have similar use, potential, and management problems. Included with these soils in mapping are areas of Bohicket and Capers soils which are mineral soils. Also included are small areas on higher elevations that are not flooded by seawater.

All of these soils are in salt tolerant plants, such as needlegrass and rush and smooth cordgrass. These soils are not suited for row crops, improved pasture, trees, or urban uses. They are best suited to wildlife habitat. Capability subclass VIIIw; not assigned to a woodland suitability group.

HB—Hobonny soils. These nearly level soils consist of organic materials that are very poorly drained. The water table ranges from 1 foot above to 0.5 feet below the surface. The landscape is a mass of broad marsh areas with a dense cover of marsh grasses. Some areas have a sparse stand of young baldcypress. The soils formed in herbaceous and woody plant remains and a small amount of mineral soil over a variety of marine and fluvial sediment. Individual areas range from 20 to more than 500 acres in size. They are frequently bordered by freshwater streams.

Typically, the surface layer is gray silty clay loam about 2 inches thick. Below that to a depth of 90 inches is dark reddish brown muck that has 10 to 20 percent mineral content.

The Hobonny soils have moderate permeability and very high available water capacity. They range from extremely acid through strongly acid, but they are very strongly acid or strongly acid in at least some part of the organic material.

These soils are commonly in large delineations that are about 55 percent Hobonny soils and about 30 percent other soils that are closely similar and have similar use and management problems. Included with these soils in mapping are border areas of the very poorly drained Deloss, Levy, and Santee soils. Where these soils are adjacent to soils that are flooded by seawater, small areas of Handsboro, Capers, and Bohicket soils are included. Also included are a few areas that have thin organic layers in the upper 32 inches of the soil and other areas that have mineral soils more than 32 inches thick underlain by organic soils. Small, commonly sandy areas that are 2 to 10 inches higher in elevation are also included with these soils.

Nearly all of these soils are in freshwater marsh grasses such as giant cutgrass, needlegrass, rush, and alligatorweed. Many areas were used for rice culture prior to the twentieth century. Some areas have a sparse stand of young baldcypress, and, if not disturbed, it is probable that these areas can support a cypress forest.

These soils are not suited for row crops, improved pasture, or urban uses. They can be used for range pasture. They are currently being used mainly for wildlife habitat. Capability subclass VIIw; not assigned to a woodland suitability group.

LaB—Lakeland fine sand, 0 to 6 percent slopes. This excessively drained, nearly level and gently sloping soil is on the higher uplands of the Coastal Plain. Individual areas range mostly from 20 to 40 acres in size, but some areas are in excess of 100 acres in size.

Typically, the surface layer is dark gray fine sand about 8 inches thick. The underlying material is fine sand to a depth of 85 inches. It is 37 inches of brownish yellow, 20 inches of yellow, and 20 inches of very pale brown that has common white lenses of uncoated fine sand.

Included with this soil in mapping are a few areas of soils that have a sand, loamy sand, or loamy fine sand surface layer and a few areas of soils whose lower part of the underlying material is white or light gray. Also included are a few intermingled areas of Albany, Blanton, Bonneau, Chipley, and Ocilla soils. Small, wet, depressed areas are included and are shown by a wet spot symbol. Long, narrow areas adjacent to drainageways that have 6 to 10 percent slopes are also included. The included soils make up 20 to 30 percent of this map unit, but separate areas generally are less than 5 acres in size.

This soil is low in natural fertility and content of organic matter. It is very strongly acid through medium acid throughout. Permeability is very rapid, and available water capacity is low or very low. The soil has good tilth and can be worked throughout a wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots.

This soil has low potential for growing row crops and small grains. Its potential is limited because of its low to very low available water capacity and its low plant nutrient retention capacity. It has medium potential for hay and pasture. When the soil is adequately fertilized, satisfactory growth of such deep rooted crops as improved bermudagrass can be obtained (fig. 4). Good tilth is easily maintained by returning crop residue to the soil. Soil blowing is a moderate hazard on large cultivated fields. Stripcropping with close growing crops or perennials planted at right angles to the prevailing wind can help reduce soil blowing. Rye is excellent for the alternating strip. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help increase available water capacity, retain plant nutrients, and reduce erosion. Plant nutrients leach easily in this soil, and for this reason fertilizers are more effective if they are applied at intervals rather than in a single application.

This soil has medium potential for growing slash pine, loblolly pine, and longleaf pine. It has moderate management problems because of limitations for the use of equipment and seedling mortality. Seedling mortality can be reduced by furrowing and planting in the furrow.

This soil has high potential for most urban uses. It has only slight limitations for septic tank absorption fields and dwellings. Because of its thick sandy surface, it has severe limitations for most recreational uses. Capability subclass IVs; woodland suitability group 4s2.

LE—Levy soils. These nearly level, very poorly drained soils have low bearing strength and are saturated with water continuously. The landscape is one of low, somewhat ponded, backswamp areas and marshes. With the exception of the marsh areas, these soils are densely populated by water tupelo, sweetgum, red maple, and baldcypress. They are generally flooded by 2 to 10 inches of water, but several months each year they are flooded by about 12 to 24 inches of water.

These soils formed in fine alluvial sediment. The mapped areas are in rather large, irregular shaped delineations ranging from a few hundred to more than 1,000 acres in size.

Typically, beneath about 2 inches of leaves, bark, and twigs, coated with dark gray silty clay, is dark gray clay about 5 inches thick. The underlying material to a depth of about 75 inches is soft clay that flows easily between the fingers when squeezed. It is 37 inches of light brownish gray, 18 inches of dark gray, and 15 inches of very dark gray. The content of organic matter ranges from about 10 to 20 percent.

These soils have slow permeability, and high available water capacity. They have very low bearing strength in all mineral layers between the surface and a depth of 40 inches. Reaction ranges from extremely acid through strongly acid in about the upper 40 inches, and it ranges from very strongly acid through slightly acid below about 40 inches.

Included with these soils in mapping are sandbars from former stream channels, soils with sandy layers over clayey layers, sandy and clayey layers over organic layers, and organic layers overlain and underlain with mineral layers. The included soils make up about 45 percent of this undifferentiated group.

Because of the difficulty of obtaining water control, these soils are not suited to row crops, pasture, or urban uses. They have medium potential for water tupelo, sweetgum, red maple, and baldcypress. When used for woodland they have severe management problems because of limitations for the use of equipment. Capability subclass VIIw; woodland suitability group 3w3.

Ln—Lynchburg loamy fine sand. This deep, somewhat poorly drained, nearly level soil is on low uplands and in slight depressions. Individual areas range mostly from 10 to 20 acres in size.

Typically, the surface layer is dark gray loamy fine sand about 8 inches thick. The subsurface layer is pale brown loamy fine sand about 9 inches thick. The subsoil extends to a depth of 64 inches. It is 8 inches of yellowish brown fine sandy loam that has gray and brown mottles, 9 inches of mottled, gray and brown sandy clay loam, 18 inches of gray sandy clay loam that has brown mottles, and 12 inches of mottled, gray, brown, and red sandy clay loam. The underlying material to a depth of 72 inches is mottled, gray and brown sandy loam with streaks and pockets of sandy clay loam.

Included with this soil in mapping are a few areas of soils that have a fine sandy loam, sandy loam, or loamy sand surface layer. Also included are a few intermingled areas of Goldsboro, Ocilla, Pelham, and Rains soils. A few areas of soils whose clay content decreases more than 20 percent within a depth of less than 60 inches are also included. Small, wet, depressed areas are included and are shown by a wet spot symbol. The included soils make up about 10 to 20 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is very strongly acid or strongly acid throughout except where the surface layer has been limed. Permeability is moderate, and available water capacity is medium. The soil has fair to good tilth and can be worked throughout a fairly wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots if it is not restricted by the water table.

This soil has high potential for growing row crops and pasture. Good tilth is easily maintained by returning crop residue to the soil. Drainage is needed on this soil in order to maintain satisfactory growth of row crops and pasture grasses. Open ditches, tile drains, or a combination of both are used to drain this soil. The use of cover crops, including grasses and legumes in the cropping system, is a practice that helps improve tilth, water holding capacity, and productivity.

This soil has high potential for growing slash pine, loblolly pine, and sweetgum. It has moderate management problems because of limitations for the use of equipment. Seedling mortality is a slight limitation.

This soil has low potential for most urban uses. Because of its wetness, it has severe limitation for septic tank absorption fields, dwellings, and some recreational uses. The severity of this limitation can be minimized by a well designed and carefully installed drainage system. Capability subclass IIw; woodland suitability group 2w8.

Ly—Lynn Haven fine sand. This sandy, poorly drained, nearly level soil is in draws, depressions, and drainageways. Individual areas commonly are elongated and range mostly from 30 to 50 acres in size.

Typically, the surface layer is black fine sand about 13 inches thick. The subsurface layer is light gray fine sand about 3 inches thick. The next layer is dark reddish brown, weakly cemented, fine sand about 16 inches thick. Below that is pale brown fine sand about 28 inches thick. The next layer to a depth of 72 inches is dark brown fine sand.

Included with this soil in mapping are a few areas of soils that have a sand or loamy sand surface layer and a few areas of soils that have sandy loam to a depth below about 50 inches. Also included are a few intermingled areas of Chipley and Pickney soils. A few areas of included soils have a slightly thinner dark surface layer, otherwise they are similar to the Lynn Haven soils. The included soils make up about 10 to 20 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is low in natural fertility and moderate in content of organic matter. It is extremely acid through strongly acid throughout. Permeability is moderately rapid or moderate because of the weakly cemented layer. The water table is at or near the surface for long periods of the year. This impedes infiltration and percolation during wet periods. Available water capacity is very low. When adequately drained, the soil has good tilth and can be worked throughout a fairly wide range of moisture conditions.

This soil has low potential for growing row crops and small grains. Its potential is limited because of the difficulty of obtaining adequate drainage, the presence of a weakly cemented illuvial humus layer that restricts root and water penetration, and a sandy texture. It has low to medium potential for hay and pasture. Open ditches, tile drains, or a combination of both are used to drain this soil. Plant nutrients leach rapidly in the soil, and for this reason fertilizers are more effective if applied at intervals rather than in a single application.

This soil has medium potential for slash pine, loblolly pine, and longleaf pine. Where ponded, it is better suited for pond pine for which it has medium potential. It has moderate to severe management problems because of limitations for the use of equipment and seedling mortality.

This soil has low potential for urban uses. Because of its wetness it has severe limitations for septic tank absorption fields, dwellings, and recreational uses. It is frequently difficult to adequately drain this soil because of its location and the weakly cemented layer which restricts percolation and infiltration. Capability subclass VIw, IVw drained; woodland suitability group 3w2.

Mu—Murad fine sand. This deep, moderately well drained and somewhat poorly drained, nearly level soil is on intermediate ridges on the uplands of the Lower Coastal Plain. Individual areas range mostly from 10 to 20 acres in size.

Typically, the surface layer is dark grayish brown fine sand about 8 inches thick. The subsurface layer is fine sand about 41 inches thick. It is 13 inches of light yellowish brown that has light gray mottles and 28 inches of light gray that has brown mottles. The subsoil extends to a depth of 80 inches. It is 11 inches of mottled, very pale brown fine sandy loam, 7 inches of mottled, yellowish brown sandy clay loam, and 13 inches of mottled, light gray sandy clay loam. The underlying material to a depth of 85 inches is mottled, brownish yellow loamy fine sand.

Included with this soil in mapping are a few areas of soils that have a loamy fine sand or loamy sand surface layer. Also included are a few intermingled areas of Chisolm, Coosaw, Eddings, Seabrook, and Williman soils. Small, wet, depressed areas are included and are shown by a wet spot symbol. The included soils make up 20 to 30 percent of this map unit, but separate areas generally are less than 4 acres in size.

This soil is low in natural fertility and low in content of organic matter. It is very strongly acid through slightly acid throughout. Permeability is moderate, and available water capacity is low. This soil has good tilth, and it can be worked throughout a wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots.

This soil has medium potential for growing row crops and small grains. Its potential is restricted by its low available water capacity and its low plant food retention capacity. This soil has medium potential for hay and pasture. Good tilth is easily maintained by returning crop residue to the soil. Drainage is needed in order to maintain maximum plant growth. Open ditches, tile drains, or a combination of both are used to drain this soil. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help improve available water capacity, plant nutrient holding capacity, and productivity. Plant nutrients leach rapidly in this soil, and for this reason fertilizers are more effective if applied at intervals rather than in a single application.

The soil has medium potential for growing slash pine, loblolly pine, and longleaf pine. It has moderate management problems because of limitations for the use of equipment and seedling mortality.

This soil has medium potential for most urban uses. Because of its wetness and seasonal high water table, it has severe limitations for septic tank absorption fields and moderate limitations for dwellings without basements. These limitations can be minimized or overcome with carefully designed and installed drainage systems. Increasing the size of the absorption area also helps overcome the severe limitation for septic tank absorption fields. This soil has a moderate limitation for most recreational uses because of wetness and because of its thick sandy surface and subsurface layers. Capability subclass IIIw; woodland suitability group 3w2.

NeA—Nemours fine sandy loam, 0 to 2 percent slopes. This moderately well drained, nearly level soil is on the higher ridges of the uplands of the Lower Coastal Plain. Individual areas range mostly from 10 to 20 acres in size.

Typically, the surface layer is dark grayish brown fine sandy loam about 7 inches thick. The subsurface layer is pale brown fine sandy loam about 2 inches thick. The subsoil extends to a depth of 55 inches. It is 9 inches of red clay that has strong brown mottles, 26 inches of light brownish gray clay that has red and brown mottles, and 11 inches of light brownish gray sandy clay loam that has yellow, brown, and red mottles. The underlying material, to a depth of about 63 inches, is pale brown fine sandy loam that has brown and gray mottles. Beneath that, to a depth of about 80 inches, is mottled, light gray and yellowish brown loamy sand with pockets of sandy clay loam.

Included with this soil in mapping are a few areas of soils that have a sandy loam, loamy fine sand, or loamy sand surface layer and a few areas of soils that have combined surface and subsurface layers that are more than 20 inches thick. Included are some areas of soils that are brownish yellow, strong brown, yellowish brown, or brown in the upper part of the subsoil. Small, narrow areas of soils adjacent to drainageways that have 2 to 6 percent slopes are included. Also included are a few intermingled areas of Eulonia and Wahee soils. Small, wet, depressed areas are included and are shown by a wet spot symbol. The included soils make up about 20 to 30 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is extremely acid through strongly acid throughout except where the surface layer has been limed. Permeability is slow, and available water capacity is medium. It has only fair tilth and needs to be worked within a narrow range of moisture conditions. The root zone is fairly deep, and it can be penetrated by plant roots without great difficulty.

This soil has high potential for growing row crops, small grains, hay, and pasture. Satisfactory tilth can be maintained by returning crop residue to the soil and tilling under optimum moisture conditions. Drainage is needed on most of this soil in order to maintain maximum plant growth. Open ditches are commonly recommended to drain this soil, but tile drains can be used if they are carefully designed and installed. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help improve permeability, tilth, and productivity.

This soil has medium potential for growing loblolly pine, slash pine, longleaf pine, and water oak. It has moderate management problems because of limitations for the use of equipment. Seedling mortality is slight.

This soil has medium potential for most urban uses. Because of its slow percolation and seasonal high water table, this soil has a severe limitation for septic tank absorption fields. The severity of this limitation can be minimized with a carefully designed and installed drainage system and by increasing the size of the absorp-

tion area. This soil has moderate limitations for dwellings without basements and for most recreational uses, mainly because of its wetness. Capability subclass IIw; woodland suitability group 3w2.

NeB—Nemours fine sandy loam, 2 to 6 percent slopes. This moderately well drained, gently sloping soil commonly is adjacent to drainageways. Slopes are smooth and convex. Individual areas are generally long and narrow and range from mostly 5 to 15 acres in size.

Typically, the surface layer is dark brown fine sandy loam about 6 inches thick. The subsoil extends to a depth of 65 inches. It is 10 inches of yellowish red clay, 16 inches of red clay that has yellowish red, brown, and gray mottles, 14 inches of light gray sandy clay that has red and brown mottles, and 19 inches of light gray clay loam that has reddish yellow and red mottles. The underlying material to a depth of about 80 inches is mottled, gray, yellow, brown, and red sandy loam.

Included with this soil in mapping are a few areas of soils that have a sandy loam or loamy fine sand surface layer. Included are some areas of soils that are brownish yellow, strong brown, yellowish brown, or brown in the upper part of the subsoil. Also included are a few intermingled areas of Chisolm and Eulonia soils. A few small areas of soils that have slopes less than 2 percent and a few areas of soils that have slopes more than 6 percent are included. The included soils make up about 20 to 30 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is extremely acid through strongly acid throughout except where the surface layer has been limed. Permeability is slow, and available water capacity is medium. It has fair tilth where the plow layer consists of material from the original surface layer, and it has poor tilth where material from the upper part of the subsoil has been incorporated in the plow layer. This soil needs to be tilled within a narrow range of moisture conditions. The root zone is fairly deep and can be penetrated by plant roots without great difficulty.

This soil has medium potential for growing row crops and small grains. Its potential is limited because of its slope, slow permeability, and erosion hazard. It has high potential for pasture. Satisfactory tilth can be maintained by returning large amounts of crop residue to the soil. Erosion is a moderate hazard if crops are grown. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help reduce runoff and control erosion.

This soil has medium potential for growing loblolly pine, slash pine, longleaf pine, and water oak. It has moderate management problems because of limitations for the use of equipment. Seedling mortality is a slight limitation.

This soil has medium potential for most urban uses. Because of its slope and because it percs slowly, it has severe limitations for septic tank absorption fields. It has moderate limitations for dwellings and most recreational uses because of its slope and slow permeability. Capability subclass IIe; woodland suitability group 3w2.

NoA—Norfolk loamy fine sand, 0 to 2 percent slopes. This deep, well drained, nearly level soil is on uplands at the higher elevations. Individual areas range mostly from 10 to 30 acres in size.

Typically, the surface layer is grayish brown loamy fine sand about 8 inches thick. The subsurface layer is light yellowish brown loamy fine sand about 7 inches thick. The subsoil to a depth of 70 inches is 4 inches of yellowish brown fine sandy loam, 23 inches of yellowish brown sandy clay loam, 10 inches of brownish yellow sandy clay loam, 8 inches of yellowish brown sandy clay that has red, yellow, and gray mottles, and 10 inches of mottled, brown, red, yellow, and gray sandy clay with pockets and strata of sandy material.

Included with this soil in mapping are areas of soils that have a fine sandy loam, sandy loam, or loamy sand surface layer. Included are a few areas of soils that have a decrease in clay content of more than 20 percent within 60 inches of the surface. Also included are a few intermingled areas of Bonneau, Goldsboro, and Ocilla soils, and a few narrow areas of soils adjacent to drainageways that have more than 2 percent slopes. Small, wet, depressed areas are included and are shown by a wet spot symbol. The included soils make up about 10 to 20 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is very strongly acid or strongly acid throughout, except where the surface layer has been limed. Permeability is moderate, and available water capacity is medium. It has good tilth and can be worked through a fairly wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots.

This soil has high potential for growing row crops and small grains. It has high potential for hay and pasture. Good tilth is easily maintained by returning crop residue to the soil. It has no significant limitations or hazards. Some soil blowing occurs on large fields that have been tilled recently. Stripcropping, windbreaks, and rotations with perennial grasses are effective means of reducing soil blowing and damage to young plants on large fields. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help maintain the content of organic matter and improve tilth and yields.

This soil has high potential for growing loblolly pine and slash pine. It has no significant limitations for woodland use or management.

This soil has high potential for most urban uses. It is well suited to septic tank absorption fields, dwellings, and camp areas. Because of its sandy surface, it has moderate limitations for picnic areas, playgrounds, and paths and trails. Capability class I; woodland suitability group 2o1.

NoB—Norfolk loamy fine sand, 2 to 6 percent slopes. This deep, well drained, gently sloping soil commonly is on borders between the higher uplands and drainageways.

Most areas are long and narrow. A few areas are on narrow ridges. Slopes are smooth and convex. Individual areas range mostly from 5 to 15 acres in size.

Typically, the surface layer is grayish brown loamy fine sand about 8 inches thick. The subsurface layer is light yellowish brown loamy fine sand about 4 inches thick. The subsoil to a depth of 82 inches is 7 inches of yellowish brown fine sandy loam, 22 inches of yellowish brown sandy clay loam, 24 inches of yellowish brown sandy clay loam that has strong brown and yellowish red mottles, and 17 inches of mottled, light yellowish brown, strong brown, and dark red sandy loam.

Included with this soil in mapping are a few areas of soils that have a fine sandy loam, sandy loam, or loamy sand surface layer, and a few small areas of soils adjacent to drainageways with a dominantly yellowish red and red subsoil. Also included are a few intermingled areas of Bonneau, Goldsboro, and Ocilla soils. A few areas of soils that have a decrease in clay content of more than 20 percent within a depth of 60 inches are included. Also included are a few small areas of soils that have slopes less than 2 percent and others that have slopes of more than 6 percent. The included soils make up about 20 to 30 percent of this map unit, but separate areas are generally less than 2 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is very strongly acid or strongly acid throughout, except where the surface layer has been limed. Permeability is moderate, and available water capacity is medium. Where material from the subsoil has not been incorporated into the plow layer, the soil has good tilth and can be worked through a fairly wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots.

This soil has high potential for growing row crops, small grains, hay, and pasture. Contour tillage and crop rotation that includes perennial grasses, terraces, and grassed waterways are recommended to help control erosion. Crop residue kept on or near the surface increases water infiltration and reduces erosion.

This soil has high potential for growing loblolly pine and slash pine. It has slight limitations for the use of equipment and seedling mortality.

This soil has high potential for most urban uses. It has slight limitations for septic tank absorption fields, dwellings, and camp areas. Because of its sandy surface, it has moderate limitations for picnic areas and paths and trails. It has moderate limitations for playgrounds because of its slope and sandy surface. Capability subclass IIe; woodland suitability group 2o1.

Oc—Ocilla loamy fine sand. This deep, somewhat poorly drained, nearly level soil is on intermediate ridges of the Coastal Plain uplands. Individual areas range from mostly 10 to 30 acres in size.

Typically, the surface layer is dark gray loamy fine sand about 7 inches thick. The subsurface layer is loamy fine sand about 26 inches thick. It is 7 inches of pale brown that has gray mottles, 9 inches of pale yellow, and 10 inches of dominantly light yellowish brown. The subsoil to a depth of 85 inches is sandy clay loam. It is 3 inches of brownish yellow that has gray, brown, and red mottles, 20 inches of gray that has red and brown mottles, 13 inches of mottled, gray, brown, and red, and 16 inches of gray sandy clay loam that has red and yellow mottles.

Included with this soil in mapping are a few areas of soils that have a loamy sand surface layer and a few areas of soils that have a very dark gray surface layer. Small, narrow areas of soils commonly adjacent to drainageways with slopes of more than 2 percent are included. Small, wet, depressed areas are included and are shown by a wet spot symbol. Also included are a few intermingled areas of Albany, Bonneau, Goldsboro, and Lynchburg soils. The included soils make up about 10 to 20 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is very strongly acid or strongly acid throughout except where the surface layer has been limed. Permeability is moderate, and available water capacity is low. This soil has good tilth and can be worked throughout a wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots.

This soil has medium potential for growing row crops and small grains. Its potential is limited because of the thick, sandy, combined surface and subsurface layers and its lack of drainage. It has medium potential for hay and pasture. Good tilth is easily maintained by returning crop residues to the soil. Drainage is needed in order to maintain maximum crop growth. Open ditches, tile drains, or a combination of both are used to drain this soil. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help improve the fertility, water holding capacity, tilth, and productivity.

This soil has medium potential for growing loblolly pine, slash pine, and longleaf pine. It has moderate management problems because of limitations for the use of equipment and seedling mortality.

This soil has medium potential for most urban uses. It has severe limitations for septic tank absorption fields because of its wetness and seasonal high water table. The severity of this limitation can be minimized with a well designed and installed drainage system. Because of its wetness, it has moderate limitations for dwellings without basements and most recreational uses. Capability subclass IIIw; woodland suitability group 3w2.

Oe—Okeetee fine sandy loam. This deep, somewhat poorly drained, nearly level soil is on low ridges of the lowlands of the Lower Coastal Plain. Individual areas are mostly 30 to 50 acres in size, but range from 5 to more than 100 acres.

Typically, the surface layer is dark gray fine sandy loam about 5 inches thick. The subsurface layer is light brownish gray fine sandy loam about 2 inches thick. The subsoil to a depth of 78 inches is 4 inches of pale brown clay loam that has gray, brown, and red mottles, 7 inches

of light brownish gray clay that has brown and red mottles, 32 inches of gray clay that has brown and red mottles, and 28 inches of light brownish gray sandy clay loam with pockets of sandy loam and loamy sand that has red mottles.

Included with this soil in mapping are some areas of soils that have a loam, sandy loam, or loamy fine sand surface layer and a few areas of soils that have an abrupt textural change between the subsurface layer and the subsoil. Included are a few areas of soils with base saturation less than 35 percent at a depth of 50 inches below the top of the subsoil. Also included are a few intermingled areas of Argent and Eulonia soils. The included soils make up about 20 to 25 percent of this map unit, but separate areas generally are less than 4 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is very strongly acid through slightly acid to a depth of about 50 to 60 inches. Below this depth it ranges from medium acid through moderately alkaline. Permeability is slow, and available water capacity is medium. It has fair to poor tilth and needs to be worked through a fairly narrow range of moisture conditions. The root zone is deep and easily penetrated by plant roots when not restricted by the water table.

This soil has medium to high potential for growing row crops and small grains. It has medium potential for pasture. Drainage is needed on this soil if crops are grown and also for good pasture management. Because of the slow permeability of this soil, open ditches commonly are recommended to drain it. Tile drains that are carefully designed and installed can be effective for areas where open ditches are unsuitable. The use of cover crops, including grasses and legumes in the cropping system, are practices that help increase infiltration and improve tilth and productivity.

This soil has high potential for growing loblolly pine, slash pine, sweetgum, and water oak. It has moderate management problems because of limitations for the use of equipment and seedling mortality.

This soil has low potential for most urban uses. Because it percs slowly and because of its wetness, this soil has severe limitations for septic tank absorption fields. These limitations are very difficult to overcome, but they can be minimized by installing a good drainage system and increasing the size of the absorption field. Because of its wetness this soil has severe limitations for dwellings and moderate limitations for most recreational uses. Capability subclass IIIw; woodland suitability group 2w8.

OK—Okeetee-Eulonia association. This association consists of somewhat poorly drained and moderately well drained, nearly level soils. The landscape is mainly a series of low and intermediate ridges with an occasional slight depression or drainageway. Elevations within the association seldom vary more than 10 feet. The Okeetee soils are on the low ridges and the Eulonia soils are on the higher ridges. These soils formed in clayey Coastal Plain sediment. The mapped areas are irregular in shape and range from 300 to 1,200 acres in size. Individual areas of each soil range from 10 to more than 100 acres in size.

The somewhat poorly drained Okeetee soils make up about 60 percent of the association. Typically, the surface layer is dark gray fine sandy loam about 5 inches thick. The subsurface layer is light brownish gray fine sandy loam about 2 inches thick. The subsoil to a depth of 78 inches is 4 inches of pale brown clay loam that has gray, brown, and red mottles, 7 inches of light brownish gray clay that has brown and red mottles, 32 inches of gray clay that has brown and red mottles, and 28 inches of light brownish gray sandy clay loam with pockets of sandy loam and loamy sand that has red mottles.

The Okeetee soils have slow permeability and medium available water capacity. It is very strongly acid through slightly acid to a depth of about 50 to 60 inches. Below this depth it ranges from medium acid through moderately alkaline.

The moderately well drained Eulonia soils make up about 25 percent of the association. Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer is light yellowish brown fine sandy loam about 8 inches thick. The subsoil extends to a depth of 58 inches. In sequence from the top, 6 inches is red sandy clay, 10 inches is red clay that has brown and gray mottles, 19 inches is light gray sandy clay that has red and brown mottles, and 10 inches is light gray sandy clay loam that has red and brown mottles. The underlying material, to a depth of 84 inches, is yellowish red sandy loam that has gray and brown mottles.

The Eulonia soils have moderately slow permeability and medium available water capacity. It is very strongly acid through medium acid throughout.

Included with these soils in mapping are small areas of the poorly drained Argent and Yonges soils on nearly level, low areas. Also included are a few areas of the very poorly drained Santee soils in depressions and drainageways.

About 90 percent of this association is wooded. The potential for woodland is high. Loblolly pine, slash pine, sweetgum, and water oak are the better adapted species. It has moderate management problems because of limitations for the use of equipment and seedling mortality.

This association has medium to high potential for row crops, small grains, hay, and pasture. Tilth ranges from poor to fair on the low ridges and from fair to good on the higher ridges. These soils need to be tilled under a fairly narrow range of moisture conditions to prevent clodding. Because of the slow or moderately slow permeability of these soils, open ditches commonly are recommended to drain them. Cover crops, including grasses and legumes in the cropping system, help to improve infiltration, tilth, and productivity.

This association has medium to low potential for most urban uses. Because of their slow or moderately slow permeability and the seasonal high water table, all of these soils have a severe limitation for septic tank absorption fields. Well designed and installed drainage systems and increased absorption areas can minimize the severity of this limitation, especially on the higher ridges.

Soils on the low ridges have severe limitations for dwellings, and those on the higher elevations have moderate limitations for dwellings. Soils of the association have moderate limitations for most recreational uses. Okeetee soils in capability subclass IIIw; woodland suitability group 2w8. Eulonia soils in capability subclass IIw; woodland suitability group 2w8.

On—Onslow loamy fine sand. This deep, moderately well drained or somewhat poorly drained, nearly level soil is on low ridges of the uplands of the Lower Coastal Plain. Individual areas range mostly from 10 to 15 acres in size.

Typically, the surface layer is dark gray loamy fine sand about 6 inches thick. The next layer is about 8 inches thick and has about 55 percent loose, light brownish gray loamy fine sand and about 45 percent dark brown and dark reddish brown, weakly cemented, loamy fine sand. The next 4 inches is pale brown fine sandy loam. The subsoil to a depth of 84 inches is 7 inches of dominantly light olive brown fine sandy loam, 25 inches of mottled, gray sandy clay loam, 34 inches of mottled, gray sandy clay loam with pockets of fine sandy loam and sandy clay.

Included with this soil in mapping are some areas of soils that have a loamy sand or fine sand surface layer and a few areas of soils that have a very dark gray or black surface layer, and some areas where the depth to the subsoil is slightly more than 20 inches. Included are a few areas of soils that are dominantly gray in the upper part of the subsoil. Also included are a few intermingled areas of Goldsboro, Lynchburg, Ocilla, and Pelham soils. Small, wet, depressed areas are included and are shown by a wet spot symbol. The included soils make up about 20 to 30 percent of this map unit, but separate areas generally are less than 4 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is extremely acid through strongly acid throughout except where the surface layer has been limed. Permeability is moderate, and available water capacity is medium. It has fair tilth and can be worked through a fairly wide range of moisture conditions. The weakly cemented layer, commonly 6 to 15 inches below the surface, will clod if tilled when wet or very dry. The root zone is deep and is only slightly restricted by the weakly cemented layer.

This soil has high potential for growing row crops, small grains, hay, and pasture. Good tilth is easily maintained by returning crop residue to the soil and tilling under good moisture conditions. Drainage is needed on this soil in order to maintain maximum plant growth and good pasture management. Open ditches, tile drains, or a combination of both, are used to drain this soil. Cover crops, including grasses and legumes in the cropping system, help improve tilth, increase plant nutrients, and increase productivity.

This soil has medium potential for growing loblolly pine, slash pine, and longleaf pine. It has moderate management problems because of limitations for the use of equipment and slight management problems because of seedling mortality.

This soil has medium potential for most urban uses. Because of its wetness and seasonal high water table, it has severe limitations for septic tank absorption fields. Well designed and installed drainage systems along with an increase in the size of the absorption area helps overcome this limitation. It has moderate limitations for dwellings without basements and most recreational uses, primarily because of its wetness. Capability subclass IIw; woodland suitability group 3w8.

Os—Osier loamy sand. This sandy, poorly drained, nearly level soil is in low or depressional areas of the lowlands of the Coastal Plain. Individual areas range from a few acres to several hundred acres in size.

Typically, the surface layer is very dark gray loamy sand about 5 inches thick. The underlying material, to a depth of about 11 inches, is grayish brown sand that has dark gray mottles. Beneath this, to a depth of 65 inches or more, is light gray sand with a few strata or pockets of dark gray loamy sand.

Included with this soil in mapping are a few areas of soils that have a loamy fine sand, fine sand, or sand surface layer and areas of soils that have strata of sandy loam or sandy clay loam at a depth of 40 to 60 inches. Also included are a few intermingled areas of Chipley, Paxville, Pelham, and Pickney soils. The included soils make up about 20 to 30 percent of this map unit, but separate areas generally are less than 5 acres in size.

This soil is low in natural fertility and content of organic matter. It is very strongly acid through medium acid throughout. Permeability is rapid, and available water capacity is very low. It has good tilth and can be worked throughout a wide range of moisture conditions. The root zone is restricted by the high water table.

This soil has low potential for growing row crops and small grains. Its potential is limited because of its rapid permeability, low water holding and low plant nutrient retention capacity. The absence of drainage or water control also limits the potential of this soil. It has low potential for hay and pasture. This soil is generally unsuited for cultivated crops. Drainage is needed for good pasture management. Open ditches, tile drains, or a combination of both are used to drain this soil. Open ditches are difficult to maintain because the side banks cave in. Plant nutrients leach rapidly in this soil, and for this reason fertilizers are more effective if applied at intervals rather than in a single application.

This soil has medium potential for slash pine, loblolly pine, and longleaf pine. It has severe mangement problems because of limitations for the use of equipment and seedling mortality.

This soil has very low potential for most urban uses. Because of its high water table and susceptibility to flooding, it has severe limitations for septic tank absorption fields, dwellings, and recreational uses. Capability subclass Vw; woodland suitability group 3w3.

Pa—Paxville fine sandy loam. This very poorly drained, nearly level soil is in low, depressional areas of the lowlands of the Coastal Plain. Individual areas range from a few acres to more than 100 acres in size.

Typically, the surface layer is black fine sandy loam about 15 inches thick. The subsoil to a depth of 64 inches is 23 inches of very dark gray sandy clay loam that has a few dark grayish brown mottles, 19 inches of very dark gray sandy clay loam with splotches of light gray and light brownish gray fine sand, and 7 inches of very dark gray fine sandy loam that has very dark grayish brown mottles. The underlying material, to a depth of 80 inches, is dark gray loamy fine sand that has very dark grayish brown mottles.

Included with this soil in mapping are areas of soils that have a loam or sandy loam surface layer, a few areas of soils that have more than 35 percent clay in the subsoil, a few areas of soils that have a surface layer more than 24 inches thick, and a few areas of soils that have a combined surface layer and subsoil less than 40 inches thick. Also included are a few intermingled areas of Coxville, Pelham, Pickney, and Rains soils. The included soils make up about 10 to 20 percent of this map unit, but separate areas generally are less than 5 acres in size.

This soil is medium in natural fertility and content of organic matter. It is very strongly acid or strongly acid throughout except where the surface layer has been limed. Permeability is moderate, and available water capacity is medium.

This soil has fair tilth and needs to be worked during a fairly narrow range of moisture conditions. The root zone is deep and easily penetrated by plant roots when not restricted by the water table.

This soil has high potential for row crops and pasture. Satisfactory tilth can be maintained by returning crop residue to the soil and tilling under optimum moisture conditions. Drainage is needed on this soil if crops are to be grown and if good pasture management is to be maintained. Open ditches, tile drains, or a combination of both are used to drain this soil. Cover crops, including grasses and legumes in the cropping system, help improve tilth, increase plant nutrient retention and increase productivity.

This soil has high potential for loblolly pine, slash pine, water oak, American sycamore, and water tupelo. It has severe management problems because of limitations for the use of equipment and seedling mortality.

This soil has low potential for urban uses. Because the water table is at or near the surface for 4 to 6 months in most years this soil has severe limitations for septic tank absorption fields, dwellings, and recreational uses. The cost of obtaining adequate drainage and water control on this soil generally prohibits its development for urban uses. Capability subclass VIw, IIIw drained; woodland suitability group 1w9.

PB—Paxville association. This association consists of very poorly drained, nearly level soils that generally occur in a somewhat elongated pattern. The landscape is one of depressional areas and poorly defined drainageways. These soils formed in loamy Coastal Plain sediment. The mapped areas commonly range from 200 to 700 acres in size.

The very poorly drained Paxville soils make up about 80 percent of the association. Typically, the surface layer is black fine sandy loam about 15 inches thick. The subsoil, to a depth of 64 inches, is 23 inches of very dark gray sandy clay loam that has few dark grayish brown mottles, 19 inches of very dark gray sandy clay loam with splotches of light gray and light brownish gray fine sand, and 7 inches of very dark gray fine sandy loam that has very dark grayish brown mottles. The underlying material to a depth of 80 inches is dark gray loamy fine sand that has very dark grayish brown mottles.

The Paxville soils have moderate permeability and medium available water capacity. The soil is very strongly acid or strongly acid throughout.

Included with these soils in mapping are areas of the poorly drained Pelham soils on low areas that are a few inches higher on the landscape than the Paxville soils. These areas range from 2 to 10 acres in size.

Nearly all of this association is wooded. The potential for woodland is high. Loblolly pine, slash pine, pond pine, water oak, water tupelo, and baldcypress are the better adapted species. This association has severe management problems because of limitations for the use of equipment and seedling mortality.

This association has high potential for row crops and pasture. Intensive drainage measures and liming are needed in order to maintain satisfactory crop growth. Open ditches, tile drains, or a combination of both are used to drain these soils.

This association has low potential for urban uses. The water table is at or near the surface for about 6 months during most years. Because of their wetness, the soils in this association have severe limitations for septic tank absorption fields, dwellings, and most recreational uses. The difficulty of overcoming this limitation is generally not economically feasible. Capability subclass VIw, IIIw drained; woodland suitability group 1w9.

Pe—Pelham loamy sand. This poorly drained, nearly level soil is on broad low flats, in depressions, and along drainageways. Individual areas generally range from 20 to 40 acres in size.

Typically, the surface layer is very dark gray loamy sand about 6 inches thick. The subsurface layer is dominantly light brownish gray loamy sand about 26 inches thick. The subsoil to a depth of 80 inches is 29 inches of mottled, gray sandy clay loam, 15 inches of dominantly light brownish gray sandy loam with pockets of sandy clay loam, and 4 inches of mottled, light gray sandy clay loam with pockets of sandy loam.

Included with this soil in mapping are some areas of soils that have a fine sandy loam, sand, or loamy fine sand surface layer. Included are a few areas of soils that have a weakly developed organic hardpan horizon or a fragipan. Included are a few areas of soils that have

slightly more than 35 percent clay in the subsoil and a few areas of soils that have combined surface and subsurface layers more than 40 inches thick. Also included are a few intermingled areas of Ocilla, Paxville, and Rains soils. The included soils make up about 20 to 30 percent of this map unit, but separate areas generally are less than 4 acres in size.

This soil is low in natural fertility and content of organic matter. It is very strongly acid or strongly acid throughout the profile except where the surface layer has been limed. Permeability is moderate, and available water capacity is low. It has good tilth and can be worked throughout a wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots unless it is restricted by the water table.

This soil has medium potential for growing row crops, small grains, and grasses. Its potential is limited because of the absence of drainage and because of the low water and plant nutrient holding capacity. Open ditches, tile drains, or a combination of both are used to drain this soil. The use of cover crops, including grasses and legumes in the cropping system, helps increase the water holding and plant nutrient holding capacity, improves tilth, and increases plant growth.

This soil has high potential for growing loblolly pine and slash pine. It has severe management problems because of limitations for the use of equipment and seedling mortality.

This soil has low potential for most urban uses. The water table is within about 1.5 feet of the surface for about 4 months during most years. Because of its wetness, this soil has severe limitations for septic tank absorption fields, dwellings, and most recreational uses. The difficulty of overcoming the hazard of wetness is generally not economically feasible for most urban uses. Some areas of soils are suited to embankments and excavated ponds (fig. 5). Capability subclass IVw; IIIw drained; woodland suitability group 2w3.

Pk—Pickney loamy fine sand. This very poorly drained, nearly level, sandy soil is in depressions and drainageways. Individual areas generally range from 20 to 50 acres in size.

Typically, the surface layer is loamy fine sand about 30 inches thick. The upper 10 inches is black and the lower 20 inches is very dark gray. The underlying material, to a depth of about 65 inches, is very dark grayish brown loamy fine sand. Beneath this, to a depth of 80 inches, it is light gray fine sand.

Included with this soil in mapping are a few areas of soils that have a loamy sand or fine sand surface layer, a few areas of soils that have strata of sandy loam and fine sandy loam in the underlying material, and a few areas of soils that have gray or grayish brown layers at a depth of less than 24 inches. Also included are a few intermingled areas of Lynn Haven, Osier, Paxville, and Pelham soils. The included areas make up about 20 to 30 percent of this map unit, but separate areas generally are less than 4 acres in size.

This soil is low in natural fertility and moderate in content of organic matter. It is extremely acid through strongly acid in the surface layer and very strongly acid through medium acid in the underlying material. Permeability is rapid, and available water capacity is low. It has good tilth and can be worked throughout a wide range of moisture conditions. The root zone commonly is restricted by the high water table.

This soil has low potential for growing row crops and small grains and has medium potential for pasture grasses. Its potential is limited because of the absence of drainage and because of the low water holding and plant nutrient holding capacity. Open ditches, tile drains, or a combination of both are used to drain this soil. The problem of side banks caving in commonly is encountered with open ditches. Plant nutrients leach rapidly in this soil, and for this reason fertilizers are more effective if applied at intervals rather than in a single application.

This soil has high potential for loblolly pine. It is also suitable for longleaf pine, baldcypress, water tupelo, sweetgum, and yellow-poplar. It has severe management problems because of limitations for the use of equipment and seedling mortality.

This soil has low potential for urban uses. It commonly floods for very long periods during the winter and early in spring. The water table is at or near the surface for about 4 months during most years. It has severe limitations for septic tank absorption fields, dwellings, and recreational uses. The difficulty of overcoming these limitations generally is not economically feasible. Capability subclass VIw; IVw drained; woodland suitability group 1w9.

Po—Polawana loamy fine sand. This very poorly drained, nearly level soil is in depressions and poorly defined drainageways. Individual areas generally range from 20 to 40 acres in size.

Typically, the upper 19 inches of the surface layer is black loamy fine sand, and the lower 11 inches is very dark gray fine sand. The underlying material is fine sand to a depth of 80 inches. It is 20 inches of very dark grayish brown and 30 inches of light brownish gray.

Included with this soil in mapping are a few areas of soils that have a loamy sand or fine sand surface layer, a few areas of soils that have thin strata and pockets of fine sandy loam, a few areas of soils that have a weakly developed illuvial humus layer, and a few areas of soils that have a black or very dark gray surface layer that is less than 24 inches thick. Included are areas of soils that have few to many concretions at a depth between 40 and 60 inches. Also included are a few intermingled areas of Baratari, Deloss, Murad, Rosedhu, and Williman soils. The included soils make up about 30 to 40 percent of this map unit, but separate areas generally are less than 5 acres in size.

This soil is low in natural fertility and moderate in content of organic matter. It is very strongly acid through neutral throughout the profile, but it generally becomes less acid at a depth below about 50 inches. Permeability is

rapid, and available water capacity is low. It has good tilth and can be worked throughout a wide range of moisture conditions. The root zone commonly is restricted by the high water table.

This soil has medium potential for growing row crops and pasture grasses. Its potential is limited because of the absence of drainage and because of the low water holding and plant nutrient holding capacity. Open ditches, tile drains, or a combination of both are used to drain this soil. Problems of side banks caving in commonly are encountered with open ditches. Plant nutrients leach rapidly in this soil, and for this reason fertilizers are more effective if applied at intervals rather than in a single application.

This soil has high potential for loblolly pine, slash pine, sweetgum, and water oak. It has severe management problems because of limitations for the use of equipment and seedling mortality.

This soil has low potential for urban uses. Because of the hazard of flooding and the high water table, it has severe limitations for septic tank absorption fields, dwellings, and recreational uses. These limitations are very difficult to overcome, and it is generally not economically feasible to undertake such a project. Capability subclass VIw; IVw drained; woodland suitability group 1w9.

Ra—Rains fine sandy loam. This deep, poorly drained, nearly level soil is in low areas and slight depressions. Individual areas generally range from 20 to 50 acres in size.

Typically, the surface layer is very dark gray fine sandy loam about 7 inches thick. The subsurface layer is light brownish gray fine sandy loam about 4 inches thick. The subsoil to a depth of 80 inches is sandy clay loam. It is 5 inches of gray that has yellowish brown mottles, 12 inches of gray that has yellowish brown and red mottles, 17 inches of gray that has brownish yellow and light red mottles, 11 inches of gray that has red and brownish yellow mottles, 9 inches of gray that has brownish yellow mottles, and 15 inches of light gray that has yellow and light yellowish brown mottles and pockets and strata of fine sandy loam.

Included with this soil in mapping are a few areas of soils that have a sandy loam, loamy fine sand, or loamy sand surface layer, a few areas of soils that have a combined surface layer and subsoil 40 to 60 inches thick, and a few areas of soils that have a fine sandy loam subsoil. Also included are a few intermingled areas of Coxville, Lynchburg, Paxville, and Pelham soils. The included soils make up about 20 to 30 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is very strongly acid or strongly acid throughout except where the surface layer has been limed. Permeability is moderate, and available water capacity is medium. It has fair tilth and can be worked through a fairly wide range of moisture conditions. When not restricted by a high water table, the root zone is deep and easily penetrated by plant roots.

This soil has high potential for growing row crops and grasses. Intensive drainage is necessary to reach this potential. Open ditches, tile drains, or a combination of both are used to drain this soil. The use of cover crops, including grasses and legumes in the cropping system, are practices that help improve the content of organic matter, fertility level, and tilth.

This soil has high potential for growing loblolly pine, slash pine, and sweetgum. It has severe management problems because of limitations for the use of equipment and seedling mortality.

This soil has low potential for urban uses. Because the water table is at or near the surface for about 6 months during most years, this soil has a severe limitation for septic tank absorption fields, dwellings, and recreational uses. Drainage systems that are carefully designed, installed, and maintained improve the suitability of this soil for urban uses. A careful analysis of the predicted results of conservation measures needs to be made prior to a development decision. Capability subclass IVw, IIIw drained; woodland suitability group 2w9.

RB—Rains association. This association consists of dominantly poorly drained, nearly level soils. The landscape is mainly one of flat lowlands and depressions with poorly defined drainageways. These soils formed in loamy Coastal Plain sediment. The mapped areas are irregular in shape and range from 300 to 1,000 acres in size.

The poorly drained Rains soils make up about 80 percent of the association. Typically, the surface layer is very dark gray fine sandy loam about 7 inches thick. The subsurface layer is light brownish gray fine sandy loam about 4 inches thick. The subsoil to a depth of 80 inches is sandy clay loam. It is 5 inches of gray that has yellowish brown mottles, 12 inches of gray that has yellowish brown and red mottles, 17 inches of gray that has brownish yellow and light red mottles, 11 inches of gray that has brownish yellow mottles, and 15 inches of light gray that has yellow and light yellowish brown mottles and pockets and strata of fine sandy loam.

The Rains soils have moderate permeability and medium available water capacity. The soil is very strongly acid or strongly acid throughout. The water table is at or near the surface for about 6 months during most years.

Included with these soils in mapping are areas of the poorly drained Coxville soils in low areas, areas of the somewhat poorly drained Ocilla soils on low ridges, areas of the poorly drained Pelham soils on low flats, slight depressions, and drainageways, and areas of the very poorly drained Paxville soils on the lower elevations. These soils formed in loamy Coastal Plain sediment. The included soils make up about 20 percent of the association, but separate areas generally are less than 10 acres.

Nearly all of this association is wooded. The potential for woodland is high. Loblolly pine, slash pine, sweetgum, and American sycamore are the better adapted species. The soils in this association have severe management problems because of limitations for the use of equipment and seedling mortality.

This association has high potential for growing row crops and grasses. Intensive drainage is necessary to reach this potential. Open ditches, tile drains, or a combination of both are used to drain these soils. The use of cover crops, including grasses and legumes in the cropping system, helps improve the content of organic matter, the fertility level, and tilth.

This association has low potential for urban uses. The Rains soils have a water table that is at or near the surface for about 6 months during most years. This results in a severe limitation for septic tank absorption fields, dwellings, and recreational uses on these soils. The included soils generally have similar limitations for usage and similar management problems. Capability subclass IVw, IIIw drained; woodland suitability group 2w9.

RC—Rains-Lynchburg association. This association consists of poorly drained and somewhat poorly drained, nearly level soils. The landscape is mainly a mass of flat lowlands and low ridges. The Rains soils are on the low flats, and the Lynchburg soils are on the low ridges. These soils formed in loamy Coastal Plain sediment. The mapped areas are irregular in shape and range from 200 to 1,000 acres in size. Individual areas of each soil range from 5 to 50 acres in size.

The poorly drained Rains soils make up about 45 percent of the association. Typically, the surface layer is very dark gray fine sandy loam about 7 inches thick. The subsurface layer is light brownish gray fine sandy loam about 4 inches thick. The subsoil to a depth of 80 inches is sandy clay loam. It is 5 inches of gray that has yellowish brown mottles, 12 inches of gray that has yellowish brown and red mottles, 17 inches of gray that has brownish yellow and light red mottles, 11 inches of gray that has red and brownish yellow mottles, 9 inches of gray that has brownish yellow mottles, and 15 inches of light gray that has yellow and light yellowish brown mottles and pockets and strata of fine sandy loam.

The Rains soils have moderate permeability and medium available water capacity. The soil is very strongly acid or strongly acid. The water table is at or near the surface for about 6 months during most years.

The somewhat poorly drained Lynchburg soils make up about 25 percent of the association. Typically, the surface layer is dark gray loamy fine sand about 8 inches thick. The subsurface layer is pale brown loamy fine sand about 9 inches thick. The subsoil extends to a depth of 64 inches. In sequence from the top, 8 inches is yellowish brown fine sandy loam, 9 inches is mottled, light brownish gray and yellowish brown sandy clay loam, 18 inches is gray sandy clay loam that has yellowish brown mottles, 12 inches is mottled, gray, yellowish brown, strong brown, and red sandy clay loam. The underlying material, to a depth of 72 inches, is mottled, gray, yellowish brown, and strong brown sandy loam with pockets of sandy clay loam.

The Lynchburg soils have moderate permeability and medium available water capacity. The soil is very strongly acid or strongly acid throughout except where the surface layer has been limed. The water table is at a depth of about 0.5 to 1.5 feet for about 6 months during most years.

Included with these soils in mapping are a few areas of the somewhat poorly drained Albany soils on intermediate ridges, a few areas of the moderately well drained Goldsboro soils on the higher ridges, a few areas of the somewhat poorly drained Ocilla soils on the intermediate ridges, a few areas of the very poorly drained Paxville soils on the lower elevations, and a few areas of the poorly drained Pelham soils on low flats. All of these soils formed in loamy Coastal Plain sediment. The included soils make up about 30 percent of the association, but separate areas generally are less than 10 acres in size.

Most of this association is wooded. The potential for woodland is high. Loblolly pine, slash pine, sweetgum, and American sycamore are the better adapted species. Limitations for the use of equipment are moderate on the ridges and severe on the lower elevations.

This association has high potential for growing row crops and grasses. Adequate drainage is necessary to reach this potential. Open ditches, tile drains, or a combination of both are used to drain these soils. The use of cover crops, including grasses and legumes in the cropping system, helps to improve the content of organic matter, the fertility level, and tilth.

This association has low potential for most urban uses. Because they have a high water table for about 6 months during most years, most of these soils have severe limitations for septic tank absorption fields, dwellings, and most recreational uses. Some small included areas on the higher elevations are suited to urban uses. Drainage systems that are well designed, installed, and maintained generally will minimize the limitations of these soils for urban uses. Rains soils in capability subclass IVw, IIIw drained; woodland suitability group 2w9. Lynchburg soils in capability subclass IIw; woodland suitability group 2w8.

Rd—Ridgeland fine sand. This somewhat poorly drained, nearly level soil is on low ridges of the Lower Coastal Plain. Individual areas generally range from 10 to 30 acres in size.

Typically, the surface layer is very dark gray fine sand about 8 inches thick. The next layer is dark reddish brown, slightly brittle, fine sand about 7 inches thick. Below that is very pale brown fine sand about 20 inches thick. Next, to a depth of 84 inches, is dark reddish brown, slightly brittle, fine sand.

Included with this soil in mapping are a few areas of soils that have a loamy fine sand surface layer and a few areas of soils that have strongly cemented layers at a depth below 50 inches. Also included are a few intermingled areas of Baratari, Polawana, Rosedhu, Seabrook, and Seewee soils. The included soils make up about 30 to 40 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is low in natural fertility and content of organic matter. It is very strongly acid through slightly acid

throughout. Permeability is moderate or moderately rapid, and available water capacity is low. It has good tilth and can be worked throughout a fairly wide range of moisture conditions.

This soil has low to medium potential for growing row crops, small grains, and grasses. Its potential is limited because of the absence of a drainage system and the low water holding and plant nutrient holding capacity. Open ditches, tile drains, or a combination of both are used to drain this soil. The caving in of ditch banks and the siltation of tile drains are frequent hazards encountered with drainage systems. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help increase the content of organic matter, improve the water holding and plant nutrient holding capacity, and improve productivity. Plant nutrients leach rapidly in this soil, and for this reason fertilizers are more effective if applied at intervals rather than in a single application.

This soil has medium potential for growing loblolly pine, slash pine, and longleaf pine. It has moderate management problems because of limitations for the use of equipment and seedling mortality.

This soil has low potential for most urban uses. Because of its wetness, it has severe limitations for septic tank absorption fields, dwellings, and some recreational uses. In some areas the severity of these limitations can be minimized by drainage systems that are carefully designed, installed, and maintained. Capability subclass IIIw; woodland suitability group 3w2.

Ro—Rosedhu fine sand. This very poorly drained, nearly level soil is on lowlands of the Lower Coastal Plain. Individual areas generally range from 40 to 60 acres in size.

Typically, the surface layer is black fine sand about 11 inches thick. Next is an illuvial humus layer of slightly brittle, fine sand about 14 inches thick. The upper 6 inches is dark reddish brown, and has dark brown mottles, and the lower 8 inches is dark brown and has dark reddish brown mottles. The next layer is brown fine sand and has dark brown mottles, and is about 28 inches thick. Below that is slightly brittle, dark reddish brown fine sand that has reddish brown, reddish gray, and dusky red mottles, and it is about 17 inches thick. The underlying material to a depth of 80 inches is grayish brown fine sand and has dark reddish brown and dark brown mottles.

Included with this soil in mapping are a few areas of soils that have a black or very dark gray surface layer that is less than 10 inches thick, a few areas of soils that have a fragipan beneath the slightly brittle humus layer, and a few areas of soils that have a fine sandy loam texture at a depth below about 50 inches. Also included are a few intermingled areas of Baratari, Polawana, Ridgeland, and Seewee soils. The included soils make up about 20 to 30 percent of this map unit, but separate areas generally are less than 4 acres in size.

This soil is low in natural fertility and moderate in content of organic matter. It is extremely acid through strongly acid in about the upper 25 inches and very strongly acid through slightly acid below this depth. Permeability is moderate or moderately rapid, and available water capacity is low. It has good tilth and can be worked through a fairly wide range of moisture conditions. The root zone is restricted by the slightly brittle humus layer at a depth of 10 to 20 inches below the surface.

This soil has low potential for growing row crops, small grains, and grasses. Its potential is restricted by the absence of a drainage system, the resistance of plant roots to penetrate the slightly brittle humus layer at a depth of 10 to 20 inches below the surface, the low inherent fertility, and the low water holding and plant nutrient holding capacity. Open ditches, tile drains, or a combination of both are used to drain this soil. Caving in of ditch banks and siltation of tile drains are frequent hazards encountered with drainage systems. Occasional subsoiling to break up the slightly brittle humus layer is recommended. The use of cover crops, including grasses and legumes in the cropping system, helps to improve the water holding and plant nutrient holding capacity and improve productivity. Plant nutrients leach rapidly in this soil, and for this reason fertilizers are more effective if applied at intervals rather than in a single application.

This soil has medium potential for growing loblolly pine and slash pine. It has severe management problems because of limitations for the use of equipment and seedling mortality.

This soil has low potential for urban uses. Because of the hazard of flooding and a water table that is at or near the surface for about 8 months during most years, this soil has severe limitations for septic tank absorption fields, dwellings, and recreational uses. Because of the difficulty of overcoming the wetness and flooding hazard, it is generally not economically feasible to use this soil for urban uses. Capability subclass VIw, IVw drained; woodland suitability group 4w3.

Sa—Santee fine sandy loam. This very poorly drained, nearly level soil is on low areas of the Lower Coastal Plain. Individual areas generally range from 50 to 100 acres in size.

Typically, the surface layer is black fine sandy loam about 7 inches thick. The subsoil extends to a depth of 53 inches. It is 9 inches of black clay, 24 inches of dominantly dark gray clay loam, and 13 inches of mottled, gray sandy clay loam. The underlying material to a depth of 68 inches is light olive gray sandy clay loam. Below this, to a depth of 84 inches, is light olive gray fine sandy loam.

Included with this soil in mapping are a few areas of soils that have a loam or clay loam surface layer, a few areas of soils that have black or very dark gray layers more than 24 inches thick, and a few areas of soils that have less than 50 percent base saturation in the surface layer. Also included are a few intermingled areas of Argent, Cape Fear, and Deloss soils. The included soils make

up about 20 to 30 percent of the map unit, but separate areas generally are less than 3 acres in size.

This soil is high in natural fertility and moderate in content of organic matter. The surface layer ranges from strongly acid through neutral, the upper part of the subsoil ranges from medium acid through mildly alkaline, and the lower part of the subsoil and underlying material range from slightly acid through moderately alkaline. Permeability is slow, and available water capacity is high. This soil has fair tilth and needs to be worked during a fairly narrow range of moisture conditions. The root zone is restricted by the high water table in areas that are not intensively drained.

This soil has high to medium potential for row crops and pasture. Its potential is limited because of the absence of a drainage system and slow permeability. Open ditches are commonly used to drain this soil. Because of the slow permeability of this soil, tile drains are not very effective unless they are very carefully designed and installed. The use of cover crops, including grasses and legumes in the cropping system, helps to maintain the content of organic matter, increase permeability, and improve tilth.

This soil has high potential for loblolly pine, sweetgum, water tupelo, and American sycamore. It has severe management problems because of limitations for the use of equipment and seedling mortality.

This soil has low potential for urban uses. Because of the hazard of flooding, slow permeability, and a water table that is at or near the surface for about 6 months during most years, this soil has severe limitations for septic tank absorption fields, dwellings, and recreational uses. It is very difficult and expensive to overcome these limitations. Capability subclass VIw, IIIw drained; woodland suitability group 1w9.

SE—Santee association. This association consists of very poorly drained, nearly level soils that have only minor inclusions of poorly drained and somewhat poorly drained soils. The mapped areas are somewhat elongated, generally paralleling drainageways. The landscape is mainly a mass of lowlands that are frequently flooded and densely covered with hardwoods. These soils formed in clayey Coastal Plain sediment. Individual areas range from 300 to 2,000 acres in size.

The very poorly drained Santee soils make up about 80 percent of the association. Typically, the surface layer is black fine sandy loam about 7 inches thick. The subsoil extends to a depth of 53 inches. It is 9 inches of black clay, 24 inches of dominantly dark gray clay loam, and 13 inches of mottled, gray sandy clay loam. The underlying material, to a depth of 68 inches, is light olive gray sandy clay loam. Beneath this, to a depth of 84 inches, is light olive gray fine sandy loam.

The Santee soils have slow permeability, and high available water capacity. The soil is strongly acid through neutral in the surface layer. It is medium acid through mildly alkaline in the upper part of the subsoil, and it is slightly acid through moderately alkaline in the lower part of the subsoil and underlying material.

Included with these soils in mapping are areas of the poorly drained Argent soils, commonly a few inches higher than the Santee soils. Also included are areas of the somewhat poorly drained Okeetee soils on low ridges. These soils formed in clayey Coastal Plain sediment. The included soils make up about 20 percent of the association with individual areas generally ranging from 3 to 10 acres in size.

All of this association is wooded. It has high potential for loblolly pine, sweetgum, water tupelo, and willow oak. This association has severe management problems because of limitations for the use of equipment and seedling mortality.

This soil has high to medium potential for row crops and pasture. Its potential is limited because of the absence of a drainage system and slow permeability. Open ditches are commonly used to drain this soil. Because of the slow permeability of this soil, tile drains are not very effective unless they are very carefully designed and installed. The use of cover crops, including grasses and legumes in the cropping system, helps to maintain the content of organic matter, increase permeability, and improve tilth.

This soil has low potential for urban uses. Because of the hazard of flooding, slow permeability, and a water table that is at or near the surface for about 6 months during most years, this soil has severe limitations for septic tank absorption fields, dwellings, and recreational uses. It is very difficult and expensive to overcome these limitations. Capability subclass VIw, IIIw drained; woodland suitability group 1w9.

Sk—Seabrook fine sand. This moderately well drained, nearly level, sandy soil is on intermediate ridges. Individual areas generally range from 20 to 50 acres in size, but a few areas are more than 100 acres.

Typically, the surface layer is dark grayish brown fine sand about 10 inches thick. The underlying material, to a depth of 80 inches, is fine sand. It has 18 inches of light yellowish brown, 7 inches of light yellowish brown that has brown and gray mottles, 5 inches of pale brown that has brown and gray mottles, 22 inches of light yellowish brown that has gray mottles, and 8 inches of light gray that has red mottles.

Included with this soil in mapping are a few areas of soils that have a loamy fine sand surface layer, a few areas of soils that have a thin, weakly developed subsoil, and a few areas of soils that have weak organic stained layers at a depth below about 40 inches. Included are small areas of soils, commonly along drainageways, that have slopes slightly more than 2 percent. Small, wet, depressed areas are included and are shown by a wet spot symbol. Also included are a few intermingled areas of Eddings, Murad, Polawana, Ridgeland, Seewee, and Wando soils. The included soils make up about 20 to 30 percent of this map unit, but separate areas are generally less than 5 acres in size.

This soil is low in natural fertility and content of organic matter. It is very strongly acid through medium

acid in the surface layer, except where limed, and very strongly acid through slightly acid in the underlying material. Permeability is rapid, and available water capacity is low. It has good tilth and can be worked throughout a wide range of moisture conditions.

This soil has medium potential for growing row crops, small grains, and grasses. Its potential is limited by its rapid permeability and low water holding and plant nutrient holding capacity. Drainage is needed in order to maintain consistently satisfactory yields. Open ditches, tile drains, or a combination of both are used to drain this soil. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help increase the water holding and plant nutrient holding capacity, improve tilth, and increase yields.

This soil has medium potential for loblolly pine, slash pine, and longleaf pine. There are moderate management problems because of limitations for the use of equipment and seedling mortality.

This soil has medium potential for most urban uses. Because the water table is 2 to 4 feet below the surface for about 4 months during most years, this soil has a severe limitation for septic tank absorption fields. It has moderate limitations for dwellings without basements and most recreational uses. The severity of this limitation can generally be minimized with a drainage system that is well designed, installed, and maintained. Capability subclass IIIs; woodland suitability group 3s2.

Sw—Seewee fine sand. This somewhat poorly drained, nearly level, sandy soil is on low ridges. Individual areas generally range from 20 to 40 acres in size.

Typically, the surface layer is fine sand about 14 inches thick. It is very dark brown in the upper part and dark grayish brown in the lower part. The subsurface layer is pale brown fine sand about 11 inches thick. The subsoil extends to a depth of 45 inches. It is 5 inches of dark brown fine sand, 5 inches of dark reddish brown and dark brown fine sand, and 10 inches of dark reddish brown fine sand. The underlying material, to a depth of 80 inches, is brown fine sand.

Included with this soil in mapping are areas of soils that have a loamy fine sand or sand surface layer, a few areas of soils that are slightly acid through neutral at a depth below 60 inches, a few areas of soils that have more than one layer that contains organic stains, and a few areas of soils that have an organic stained layer beginning more than 30 inches below the surface layer. Also included are a few intermingled areas of Baratari, Polawana, Ridgeland, Rosedhu, and Seabrook soils. The included soils make up about 25 to 30 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is low in natural fertility and content of organic matter. It is very strongly acid through strongly acid to a depth of about 25 inches except where limed, and is strongly acid through medium acid below this depth. Permeability is moderate to moderately rapid, and available water capacity is low. It has good tilth and can be worked throughout a wide range of moisture conditions.

This soil has medium potential for growing row crops, small grains, and grasses. Its potential is limited because of the low inherent fertility, the absence of a drainage system, and the low water holding and plant nutrient holding capacity. Open ditches, tile drains, or a combination of both are used to drain this soil. Caving in of side banks and siltation of tile drains are problems commonly encountered with drainage systems. The use of cover crops, including grasses and legumes in the cropping system, helps to increase the water holding and plant nutrient holding capacity, improves tilth, and increases yields.

This soil has high potential for loblolly pine, slash pine, and sweetgum. It has moderately high potential for longleaf pine. It has moderate management problems because of limitations for the use of equipment.

This soil has low potential for most urban uses. Because the water table is within 1 to 2 feet of the surface for about 5 months during most years, this soil has a severe limitation for septic tank absorption fields, dwellings, and some recreational uses. The water table in most areas can be lowered by a drainage system that is well designed, installed, and maintained. Capability subclass IIIw; woodland suitability group 2w8.

TC—Tawcaw-Chastain association. This association consists of somewhat poorly drained and poorly drained, nearly level soils on flood plains along the lower reaches of rivers which originate in the Piedmont. The landscape is mainly a series of low ridges and troughs that vary widely in width and tend to parallel the major streams. They are frequently flooded. The Tawcaw soils are on the low ridges that are commonly only a few inches higher than the Chastain soils. The Chastain soils are in the troughs and shallow depressions. The soils in this association formed in clayey alluvial sediment. The mapped areas are mostly elongated and range from 500 to 2,500 acres in size where they are not separated by streams. Individual areas of each soil range from 25 to 200 acres in size.

The somewhat poorly drained Tawcaw soils make up about 55 percent of the association. Typically, the surface layer is dark brown clay about 9 inches thick. The subsoil to a depth of 80 inches is 4 inches of mottled, yellowish brown clay, 34 inches of mottled, light yellowish brown clay loam, and 33 inches of mottled, light gray, yellowish brown, and brownish yellow clay loam.

The Tawcaw soils have slow permeability and medium available water capacity. The soil is very strongly acid through medium acid throughout. The water table is within 1.5 to 2.5 feet of the surface for about 6 months during most years.

The poorly drained Chastain soils make up about 40 percent of the association. Typically, the surface layer is gray clay loam about 4 inches thick. The subsoil extends to a depth of 54 inches. The upper 12 inches is mottled, gray clay loam, and the lower 38 inches inches is mottled, light brownish gray clay. The underlying material to a depth of about 80 inches is mottled, gray clay.

The Chastain soils have slow permeability and medium available water capacity. The soil is very strongly acid or strongly acid throughout. The water table is at or near the surface for about 6 months or more during most years.

Included with these soils in mapping are a few areas of the poorly drained Argent soils in low areas. Also included are a few areas of the excessively drained Buncombe soils. These soils are on small mounds and ridges that are a few feet higher than the adjacent soils. Buncombe soils developed in sandy alluvial sediment.

Nearly all of this association is wooded. It has high potential for sweetgum, loblolly pine, water oak, eastern cottonwood, and American sycamore. The lower areas have severe management problems because of limitations for the use of equipment and seedling mortality. The low ridges have moderate management problems because of limitations for the use of equipment and seedling mortality.

Because they are frequently flooded, these soils are not used for row crops, small grains, grasses, or urban uses. Tawcaw soils in capability subclass VIIw; woodland suitability group 1w8. Chastain soils in capability subclass VIIw; woodland suitability group 2w9.

To—Tomotley loamy fine sand. This poorly drained, nearly level soil is on low flats and slight depressions of the Lower Coastal Plain. Individual areas generally range from 25 to 50 acres in size.

Typically, the surface layer is very dark gray loamy fine sand about 8 inches thick. The subsurface layer is light gray loamy fine sand about 5 inches thick. The subsoil extends to a depth of 59 inches. It is 31 inches of gray sandy clay loam that has brown and red mottles, 8 inches of light gray sandy clay that has brown and red mottles, and 7 inches of light gray fine sandy loam that has brown, olive, and red mottles and pockets of sandy clay loam. The underlying material, to a depth of 80 inches, is light gray loamy fine sand that has brown mottles.

Included with this soil in mapping are a few areas of soils that have a loamy sand or fine sandy loam surface layer, a few areas of soils that have base saturation of more than 35 percent at a depth below about 60 inches, and a few areas of soils that have a small accumulation of organic stains about 10 inches below the surface. Also included are a few intermingled areas of Argent, Bladen, Deloss, Williman, and Yemassee soils. The included soils make up 20 to 30 percent of this map unit, but separate areas generally are less than 4 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is extremely acid through strongly acid to a depth of about 50 inches and extremely acid through medium acid below this depth. Permeability is moderately slow, and available water capacity is medium. It has fair tilth and can be worked through a fairly wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots when not restricted by a high water table.

This soil has high potential for growing row crops and grasses. Its potential is somewhat limited because of the absence of a drainage system. Open ditches, tile drains, or a combination of both are used to drain this soil. The use of cover crops, including grasses and legumes in the cropping system, helps improve tilth, increase the water holding and plant nutrient holding capacity, and increase crop growth.

This soil has high potential for loblolly pine, slash pine, sweetgum, and American sycamore. It has severe management problems because of limitations for the use of equipment and seedling mortality.

This soil has low potential for urban uses. The water table is at or near the surface for about 4 months during most years. This results in a severe limitation for septic tank absorption fields, dwellings, and recreational uses. If they are carefully designed, installed, and maintained, drainage systems can minimize the severity of this limitation. The moderately slow permeability is an additional limitation for septic tank absorption fields, but this can be overcome by increasing the size of the absorption area or modifying the filter field itself. Capability subclass IVw, IIIw drained; woodland suitability group 2w9.

UL—Udorthents, loamy. These soils consist of the spoil from phosphate mining operations that ceased about 50 years ago. The landscape is mainly a series of parallel ridges and troughs. The ridges are 5 to 15 feet above the original ground and are 20 to 40 feet wide at this elevation. These soils are moderately well drained to well drained. The ridges have heavy to sparse tree and shrub cover. The troughs extend 6 to 10 feet below the original ground level and generally contain 3 to 7 feet of water. Because most of this soil is adjacent to tidal marshes, the water in the troughs commonly is brackish. Individual areas range from about 15 to 75 acres in size.

In a typical profile near the top of a ridge, the surface layer is dark grayish brown loamy fine sand about 3 inches thick. The subsurface layer is light brownish gray loamy fine sand about 3 inches thick. The underlying material, to a depth of 80 inches, is strata of fine sandy loam, sandy clay loam, sandy clay, and clay with fine to large pockets of mineral soil of varying textures.

These soils are adjacent to Bladen, Capers, Coosaw, Tomotley, and Williman soils.

These soils are low in natural fertility and content of organic matter. They are very strongly acid or strongly acid to a depth of about 10 inches and are medium acid to mildly alkaline below this depth. Permeability is moderately slow, and available water capacity is medium. Surface runoff is moderate.

Because of the steep ridges and partially water filled troughs, these soils are not suited to cultivation or urban uses. The ridges have medium potential for loblolly pine and slash pine. They have severe management problems because of limitations for the use of equipment. The troughs have low potential for fish and wildlife habitat. Capability subclass VIIs; woodland suitability group 3r3.

US—Udorthents, sandy. These nearly level soils consist of areas where the soil material has been excavated, filled, or otherwise disturbed by man. They consist of hydraulic filled areas and sediment from dredging operations along canals and the Intracoastal Waterway. They commonly are referred to as made land. The majority of these soils are in the highly developed areas of the military installations within the survey area.

These soils commonly are sandy but include a few areas that have moderate to large amounts of silts and clays. Hydraulic filled areas frequently contain shell fragments, fragments of ironstone, and fine quartz gravel. They vary in depth from about 3 to more than 10 feet. Areas used for grasses and shrubs normally have 4 to 6 inches of loamy fine sand topsoil.

Onsite investigations are necessary to determine whether these soils are suited to a particular use. Sandfill on top of sand is satisfactory for residences, recreation, light industry, or roads if the water table is kept below a depth of 36 inches. Sand that has been hauled in and compacted can have a moderately slow percolation rate. Pilings for house foundations must be driven in areas of shallow sand underlain by soft marsh.

Included with these soils in mapping are small areas of clayey material that have a high sulfur content and have been pumped or dug from tidal marshes. This material shrinks and swells and has a slow percolation rate. Thus, it is seldom suitable for buildings or for septic tank absorption fields. It becomes so extremely acid when it dries that plants die in it. A layer of topsoil 6 to 8 inches thick can be spread over this material to provide soil that is suitable for growing grass.

Those areas where acid clays do not occur have medium potential for growing loblolly pine and slash pine. Capability subclass VIIs; woodland suitability group 3s2.

Wa—Wahee fine sandy loam. This deep, somewhat poorly drained, nearly level soil is on low uplands. Individual areas generally range from 10 to 30 acres in size.

Typically, the surface layer is very dark gray fine sandy loam about 6 inches thick. The subsurface layer is pale olive fine sandy loam about 7 inches thick. The subsoil to a depth of 62 inches is 3 inches of mottled, yellowish brown clay loam, 5 inches of mottled, light brownish gray clay, 19 inches of mottled, gray sandy clay, and 22 inches of mottled, gray sandy clay loam.

Included with this soil in mapping are a few areas of soils that have a loamy fine sand surface layer and a few areas of soils that are slightly acid or medium acid at a depth below about 50 inches. Also included are a few intermingled areas of Bladen, Eulonia, Nemours, and Yemassee soils. The included soils make up about 10 to 20 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is very strongly acid or strongly acid throughout except where the surface layer has been limed. Permeability is slow, and available water capacity is high. Layers above the subsoil have fair tilth and can be worked through a fairly wide range of moisture conditions. Tillage that extends into the subsoil needs to be done under optimum moisture conditions in order to prevent clodding. The root zone is deep and easily penetrated by plant roots unless restricted by a high water table.

This soil has high to medium potential for growing row crops, small grains, and pasture. Its potential is limited by the absence of a drainage system and slow permeability. Satisfactory tilth can be maintained by returning crop residue to the soil. Because of the slow permeability of this soil, open ditches are commonly used to drain it. If they are carefully designed and installed, tile drains can be used in some places. The use of cover crops, including grasses and legumes in the cropping system, helps increase the plant nutrient holding capacity, improve tilth, increase infiltration, and improve yields.

This soil has high potential for loblolly pine, slash pine, sweetgum, water oak, and sycamore. It has moderate management problems because of limitations for the use of equipment and seedling mortality.

This soil has low potential for most urban uses because it has a clayey subsoil that percs slowly and because the water table is at or near the surface for about 4 months during most years. This soil has severe limitations for septic tank absorption fields. Although difficult to overcome, the severity of these limitations can be decreased with a well designed and installed drainage system, by increasing the size of the absorption areas, and by installing a more elaborate filter field. Because of its wetness, this soil has severe limitations for dwellings and recreational uses (fig. 6). Capability subclass IIIw; woodland suitability group 2w8.

Wd—Wando fine sand, 0 to 6 percent slopes. This excessively drained, nearly level and gently sloping soil is on the higher ridges of the lower marine terraces. Individual areas are commonly elongated paralleling the drainageways and range from 10 to more than 50 acres in size.

Typically, the surface layer is dark brown fine sand about 9 inches thick. The underlying material to a depth of 85 inches is fine sand. It is 10 inches of brown, 33 inches of strong brown, and 33 inches of pale yellow that has a few brown and red mottles.

Included with this soil in mapping are a few areas of soils that have a loamy fine sand or loamy sand surface layer, a few areas of soils that have a slight accumulation of organic stains at a depth below 50 inches, and a few small areas of soils that are strongly acid. Included are narrow areas of soils adjacent to drainageways that have slopes of more than 6 percent. Small, wet, depressed areas are included and are shown by a wet spot symbol. Also included are a few intermingled areas of Eddings, Ridgeland, Seabrook, and Seewee soils. The included soils make up about 20 to 30 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is low in natural fertility and content of organic matter. It is medium acid through neutral

throughout. Permeability is rapid, and available water capacity is low. It has good tilth and can be worked throughout a wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots.

This soil has low potential for growing row crops and small grains and medium potential for pasture grasses. Its potential is limited because of rapid permeability, low inherent fertility, and low water holding and plant nutrient holding capacity. Good management practices on this soil include irrigation, high fertilization, and the return of large amounts of organic matter to the soil.

Soil blowing is a moderate hazard in large cultivated fields. Close growing crops or wind strips planted at right angles to the prevailing winds help reduce soil blowing and protect young plants. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help increase the water holding and plant nutrient holding capacity, improve tilth, decrease soil blowing, and improve yields.

This soil has medium potential for loblolly pine, slash pine, and longleaf pine. It has moderate management problems because of limitations for the use of equipment and seedling mortality.

This soil has high potential for most urban uses. It is generally well suited for septic tank absorption fields. Seepage could be a problem in densely developed urban areas and, also, where absorption fields are near drainageways. This soil is well suited for dwellings. Because of its deep sandy texture, it has moderate limitation for recreational uses. Capability subclass IIIs; woodland suitability group 3s2.

Wn—Williman loamy fine sand. This deep, poorly drained, nearly level soil is on flat areas, in slight depressions, and along drainageways on the lower marine terraces. Individual areas generally range from 20 to 40 acres in size.

Typically, the surface layer is very dark gray loamy fine sand about 5 inches thick. The subsurface layer is loamy fine sand about 21 inches thick. It is mottled, dark grayish brown in the upper part and mottled, light brownish gray in the lower part. The subsoil to a depth of 80 inches is 4 inches of mottled, light brownish gray fine sandy loam, 17 inches of mottled, gray sandy clay, and 33 inches of mottled, light brownish gray sandy clay loam. The underlying material to a depth of about 90 inches is mottled, light brownish gray fine sandy loam.

Included with this soil in mapping are a few areas of soils that have a fine sand or loamy sand surface layer, a few areas of soils that have combined surface and subsurface layers slightly more than 40 inches thick, a few areas of soils that have a weakly developed organic stained layer, and a few areas of soils that have slightly more than 35 percent clay in the subsoil. Also included are a few intermingled areas of Bladen, Coosaw, Deloss, Murad, and Tomotley soils. The included soils make up about 10 to 20 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is extremely acid through strongly acid in the surface layer, subsurface layer, and subsoil. The underlying material ranges from very strongly acid through neutral. Permeability is moderate, and available water capacity is low to medium. It has good tilth and can be worked throughout a wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots, unless restricted by a high water table.

This soil has medium to high potential for growing row crops, small grains, and grasses. Its potential is limited because of the absence of a drainage system and the low to medium water holding and plant nutrient holding capacity. Open ditches, tile drains, or a combination of both are used to drain this soil. The use of cover crops, including grasses and legumes in the cropping system, helps to increase the water holding and plant nutrient holding capacity, improve tilth, and increase yields.

This soil has high potential for slash pine and loblolly pine. It has severe management problems because of limitations for the use of equipment and seedling mortality.

This soil has low potential for urban uses. Because the water table is at or near the surface for about 5 months during most years, this soil has severe limitations for septic tank absorption fields, dwellings, and recreational uses. In some areas, the severity of this limitation can be minimized by drainage systems that are well designed, installed, and maintained. Once this soil has drainage, the septic tank absorption fields can be improved by increasing the size of the absorption area and installing a more elaborate filter field. Capability subclass IVw, IIIw drained; woodland suitability group 2w3.

Ye—Yemassee loamy fine sand. This deep, somewhat poorly drained, nearly level soil is on low ridges of the lower marine terraces. Individual areas generally range from 10 to 20 acres in size.

Typically, the surface layer is dark gray loamy fine sand about 8 inches thick. The subsurface layer is light yellowish brown loamy fine sand about 7 inches thick. The subsoil to a depth of 65 inches is 4 inches of mottled, pale brown fine sandy loam, 29 inches of mottled, light brownish gray sandy clay loam, and 17 inches of mottled, light brownish gray sandy clay loam with pockets of fine sandy loam. The underlying material to a depth of about 90 inches is mottled, light brownish gray fine sandy loam with pockets and strata of sandy clay loam and loamy fine sand.

Included with this soil in mapping are a few areas of soils that have a fine sandy loam, sandy loam, or loamy sand surface layer, a few areas of soils that have combined surface and subsurface layers slightly more than 20 inches thick, a few areas of soils that have a slight accumulation of organic stains in the upper part of the subsurface layer, and a few areas of soils that have slightly more than 35 percent clay in the lower part of the subsoil. Also included are a few intermingled areas of Bertie,

Coosaw, Tomotley, and Williman soils. Small, wet, depressed areas are included and are shown by a wet spot symbol. The included soils make up about 20 to 30 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is extremely acid through strongly acid except where the surface layer has been limed. Permeability is moderate, and available water capacity is medium. It has fair to good tilth and can be worked through a fairly wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots, unless restricted by the water table.

This soil has high potential for growing row crops and grasses. Adequate drainage is necessary to reach this potential. Open ditches, tile drains, or a combination of both are used to drain this soil. Minimum tillage and the use of cover crops, including grasses and legumes in the cropping system, are practices that help increase the water holding and plant nutrient holding capacity, improve tilth, and increase yields.

This soil has high potential for growing loblolly pine, slash pine, sweetgum, and yellow poplar. It has moderate management problems because of limitations for the use of equipment.

This soil has low potential for most urban uses. Because the water table is within 1 to 1.5 feet of the surface for about 4 months during most years, this soil has a severe limitation for septic tank absorption fields and dwellings. It has moderate limitations for most recreational uses. The limitations imposed by the high water table can be minimized by drainage systems that are well designed, installed, and maintained. Septic tank absorption fields can be improved further by increasing the size of the absorption area and installing a more elaborate filter field. Capability subclass IIw; woodland suitability group 2w8.

Yo—Yonges loamy fine sand. This deep, poorly drained, nearly level soil is in low areas of the Lower Coastal Plain. Individual areas generally range from 10 to 40 acres in size.

Typically, the surface layer is dark gray loamy fine sand about 9 inches thick. The subsoil to a depth of 80 inches is 9 inches of dark gray fine sandy loam, 42 inches of mottled, gray sandy clay loam, and 20 inches of mottled, light olive gray sandy clay loam with pockets of fine sandy loam in the upper part and lenses of white sand in the lower part.

Included with this soil in mapping are a few areas of soils that have a fine sandy loam surface layer, a few areas of soils that have combined surface and subsurface layers slightly more than 20 inches thick, a few areas of soils that have a very dark gray or black surface layer slightly more than 7 inches thick, and a few areas of soils that have slightly more than 35 percent clay in the subsoil. Also included are a few intermingled areas of Argent, Bladen, Okeetee, and Santee soils. The included soils make up about 30 to 40 percent of this map unit, but separate areas generally are less than 3 acres in size.

This soil is medium in natural fertility and low in content of organic matter. It is strongly acid through neutral in the surface layer and upper part of the subsoil and slightly acid through mildly alkaline in the lower part of the subsoil. Permeability is moderately slow, and available water capacity is medium. It has fair to good tilth in the surface and subsurface layers and can be worked through a fairly wide range of moisture conditions. The root zone is deep and easily penetrated by plant roots, unless restricted by a high water table.

This soil has high potential for growing row crops and pasture grasses. Drainage is needed in order to reach this potential. Open ditches, tile drains, or a combination of both are used to drain this soil. The use of cover crops, including grasses and legumes in the cropping system, are practices that help increase the water holding and plant food holding capacity, improve tilth, and increase yields.

This soil has high potential for growing loblolly pine, sweetgum, and water oak. It has severe management problems because of limitations for the use of equipment and seedling mortality.

This soil has low potential for most urban uses. Because the water table is at or near the surface for about 6 months during most years, it has severe limitations for septic tank absorption fields, dwellings, and recreational uses. The severity of this limitation can be minimized by drainage systems that are well designed, installed, and maintained. Drained areas used for septic tank absorption fields can be further improved by increasing the size of the absorption area and installing a more elaborate filter field. Capability subclass IVw, IIIw drained; woodland suitability group 1w9.

YR—Yonges-Argent association. This association consists of poorly drained, nearly level soils that occur in a random pattern. The landscape is mainly a mass of low areas and shallow depressions. The Yonges soils are in the low areas, and the Argent soils are in the shallow depressions. These soils formed in loamy and clayey Coastal Plain sediment on the lower marine terraces. The mapped areas are irregular in shape and generally range from 300 to 500 acres in size. Individual areas of each soil range from 20 to 200 acres in size.

The poorly drained Yonges soils make up about 60 percent of the association. Typically, the surface layer is dark gray loamy fine sand about 9 inches thick. The subsoil to a depth of 80 inches is 9 inches of dark gray fine sandy loam, 42 inches of mottled, gray sandy clay loam, and 20 inches of mottled, light olive gray sandy clay loam with pockets of fine sandy loam in the upper part and lenses of white sand in the lower part.

The Yonges soils have moderately slow permeability and medium available water capacity. These soils are strongly acid through neutral in the surface layer and upper part of the subsoil and slightly acid through mildly alkaline in the lower part of the subsoil. The water table is at or near the surface for about 6 months during most years.

The poorly drained Argent soils make up about 30 percent of the association. Typically, the surface layer is very dark gray clay loam about 5 inches thick. The subsoil to a depth of 76 inches is 41 inches of mottled, gray clay, 18 inches of mottled, light olive gray clay, and 12 inches of mottled, greenish gray sandy clay loam. The underlying material, to a depth of about 80 inches, is mottled, gray sandy loam.

The Argent soils have slow permeability and high available water capacity. The soil is extremely acid through medium acid to a depth of about 50 or 60 inches. Below this depth it ranges from medium acid through moderately alkaline. The water table is at or near the surface for about 6 months during most years.

Included with these soils in mapping are a few areas of the somewhat poorly drained Okeetee soils on the low ridges. These areas range from 2 to 10 acres in size. Also included are a few areas of the very poorly drained Santee soils in the poorly defined drainageways. These areas range from 20 to 40 acres in size.

Nearly all of this association is wooded. The potential for woodland is high. Loblolly pine, slash pine, sweetgum, and water oak are the better adapted species. It has severe management problems because of limitations for the use of equipment and moderate to severe management problems because of seedling mortality. Water management systems that are well designed and installed generally enhance natural reforestation and management practices.

This association has high to medium potential for row crops and small grains. Its potential is limited by the absence of a drainage system and the moderately slow or slow permeability. It has high potential for pasture. Because of the moderately slow or slow permeability, open ditches are commonly used to drain these soils. Cover crops, including grasses and legumes in the cropping system, help improve the tilth and maintain the content of organic matter.

This association has low potential for most urban uses. Because the water table is at or near the surface for about 6 months during most years, the soils in this association have severe limitations for septic tank absorption fields, dwellings, and recreational uses. In addition, the Argent soils have a moderate shrink-swell potential and a clayey subsoil that percs slowly. Drainage systems that are well designed, installed, and maintained help lower the water table in some areas. Yonges soils in capability subclass IVw, IIIw drained; woodland suitability group 1w9. Argent soils in capability subclass IVw, IIIw drained; woodland suitability group 1w9.

Use and management of the soils

The soil survey is a detailed inventory and evaluation of the most basic resource of the survey area—the soil. It is useful in adjusting land use, including urbanization, to the limitations and potentials of natural resources and the environment. Also, it can help avoid soil-related failures in uses of the land.

While a soil survey is in progress, soil scientists, conservationists, engineers, and others keep extensive notes about the nature of the soils and about unique aspects of behavior of the soils. These notes include data on erosion, drought damage to specific crops, yield estimates, flooding, the functioning of septic tank disposal systems, and other factors affecting the productivity, potential, and limitations of the soils under various uses and management. In this way, field experience and measured data on soil properties and performance are used as a basis for predicting soil behavior.

Information in this section is useful in planning use and management of soils for crops and pasture, rangeland, and woodland; as sites for buildings, highways and other transportation systems, sanitary facilities, and parks and other recreation facilities, and for wildlife habitat. From the data presented, the potential of each soil for specified land uses can be determined, soil limitations to these land uses can be identified, and costly failures in houses and other structures, caused by unfavorable soil properties, can be avoided. A site where soil properties are favorable can be selected, or practices that will overcome the soil limitations can be planned.

Planners and others using the soil survey can evaluate the impact of specific land uses on the overall productivity of the survey area or other broad planning area and on the environment. Productivity and the environment are closely related to the nature of the soil. Plans should maintain or create a land-use pattern in harmony with the natural soil.

Contractors can find information that is useful in locating sources of sand and gravel, roadfill, and topsoil. Other information indicates the presence of bedrock, wetness, or very firm soil horizons that cause difficulty in excavation.

Health officials, highway officials, engineers, and many other specialists also can find useful information in this soil survey. The safe disposal of wastes, for example, is closely related to properties of the soil. Pavements, sidewalks, campsites, playgrounds, lawns, and trees and shrubs are influenced by the nature of the soil.

Crops and pasture

CHARLES A. HOLDEN, JR., conservation agronomist, and JAMES L. WILSON, JR., district conservationist, Soil Conservation Service, assisted in preparing this section.

The major management concerns in the use of the soils for crops and pasture are described in this section. In addition, the crops or pasture plants best suited to the soil, including some not commonly grown in the survey area, are discussed; the system of land capability classification used by the Soil Conservation Service is explained; and the estimated yields of the main crops and hay and pasture plants are presented for each soil.

This section provides information about the overall agricultural potential of the survey area and about the

management practices that are needed. The information is useful to equipment dealers, land improvement contractors, fertilizer companies, processing companies, planners, conservationists, and others. For each kind of soil, information about management is presented in the section "Soil maps for detailed planning." Planners of management systems for individual fields or farms should also consider the detailed information given in the description of each soil.

More than 102,000 acres in the survey area was used for crops and pasture in 1970, according to the Conservation Needs Inventory. Of this total 6,000 acres was used for permanent pasture; 60,000 acres for row crops, mainly soybeans; 5,000 acres for closegrown crops, mainly oats and rye; 9,000 acres for truck crops; 16,000 acres for rotation hay and pasture; and the rest was fallow land.

Potential is high for increased production of food on the soils in Beaufort and Jasper Counties. About 514,000 acres of potential cropland is used for woodland, and about 5,000 acres is pasture. Most of these soils will need drainage in order to maintain satisfactory yields. In addition to the reserve production capacity of this land, food production can also be increased considerably by extending the latest crop production technology to all cropland in the counties. This soil survey can greatly facilitate the application of such technology.

Acreage in cropland has been decreasing gradually as more and more land is being used for urban development. Estimates show that in 1970 there were about 50,000 acres of urban and built up land in the counties. This figure has been growing at the rate of about 2,000 acres per year. The section "Soil map for general planning" discusses the use of this soil survey as an aid in making land use decisions that will influence the future role of farming in the counties.

Soil erosion is a major problem on only a very small part of the survey area. Less than 5 percent of the area has slopes of more than 2 percent. If a slope is more than 2 percent, erosion is a hazard. Most of the soils with more than 2 percent slopes occur on the Blanton, Lakeland, and Norfolk soils in the northern part of Jasper County. Small areas of soils with more than 2 percent slopes occur on the Chisolm, Eddings, Nemours, and Wando soils throughout Beaufort County and in the lower part of Jasper County. Soil blowing is a hazard on large cultivated fields of the sandy Lakeland and Wando soils.

Loss of a significant part of the surface layer through erosion is damaging for two reasons. First, productivity is reduced as the surface layer is lost, and material from the subsoil is incorporated into the plow layer. Loss of the surface layer is especially damaging on soils with a clayey subsoil, such as the Nemours soils. Second, soil erosion on farmland results in sediment entering streams. Controlling erosion minimizes the pollution of streams by sediment and improves water quality for municipal use, for recreation, and for fish and wildlife.

Erosion control practices provide protective surface cover, reduce runoff, and increase infiltration. A cropping system that keeps vegetative cover on the soil for extended periods can hold soil erosion losses down to amounts that will not reduce the production capacity of the soils. Minimizing tillage and leaving crop residue on the surface help to increase infiltration and reduce the hazards of runoff and erosion. The no-tillage system for corn growing is effective in reducing erosion on sloping land and can be adapted to most soils in the survey area. The legumes and grasses used in the cropping systems on livestock farms help to reduce erosion on sloping land and also provide nitrogen and improve tilth for the next crops.

Other erosion control measures include terraces and diversions. They reduce the length of slope, and they reduce runoff and erosion. Also included are contouring and contour stripcropping.

Soil blowing is a hazard on the large bare areas of the sandy Lakeland, Seabrook, and Wando soils. Maintaining vegetative cover, surface mulch, or rough surfaces through proper tillage minimizes soil blowing on these soils. Windbreaks of adapted shrubs and grasses that are planted at right angles to the prevailing winds are effective in reducing soil blowing in large areas of sandy soils.

High tides during storms and hurricanes and ocean currents erode the shoreline, beaches, and dunes of the more seaward islands (fig. 7).

Information on the design of erosion control practices for each kind of soil is contained in the Technical Guide which is available in local offices of the Soil Conservation Service.

Soil drainage is the major management need on about three-fourths of the acreage used for crops and pasture in the survey area. Some soils are naturally so wet that the production of crops common to the area is generally not possible. These are the poorly drained and very poorly drained soils. They make up about 300,000 acres of the survey area, excluding those soils that are flooded by saltwater.

Unless artificially drained, the somewhat poorly drained soils are so wet that crops are damaged during most years. Some of the more common soils in this drainage class include the Albany, Coosaw, Lynchburg, Murad, Ocilla, Okeetee, Seewee, Wahee, and Yemassee soils. Beaufort and Jasper Counties have about 145,000 acres of somewhat poorly drained soils.

The survey area has about 102,000 acres of moderately well drained soils. Most of these soils will produce satisfactory yields during most years without artificial drainage. For continuous satisfactory yields, however, drainage is recommended. Some of the more common moderately well drained soils include the Bertie, Blanton, Bonneau, Chipley, Echaw, Eulonia, Goldsboro, Nemours, and Seabrook soils.

Open ditches, tile drains, or a combination of both are used to drain these soils. The type and design of the drainage system varies with the kind of soil. Drains have to be more closely spaced in soils with slow permeability than in the more permeable soils. Open ditches are com-

monly recommended on such slowly permeable soils as the Argent, Bladen, Cape Fear, Coxville, Okeetee, Santee, and Wahee soils. Because of the nearly level and low topography, adequate drainage outlets are difficult to find in some areas.

Soil fertility is naturally low in most soils of the uplands in the survey area. Nearly all of the soils, excluding those that are flooded by saltwater, have an acid surface layer unless they have been limed recently. Most of the soils are acid throughout, but a few, including the Okeetee, Polawana, Santee, Wando, and Yonges soils, commonly are neutral to moderately alkaline at depths below about 50 inches.

The Bohicket, Capers, and Handsboro soils are flooded daily or occasionally by saltwater. They commonly are slightly acid or neutral in the upper part and mildly alkaline or moderately alkaline at a depth of about 50 inches. These soils frequently have large amounts of sulfides that, when drained, oxidize to sulfates and form sulfuric acid. Plants do not grow in these extremely acid soils.

Many upland soils are naturally extremely acid to strongly acid. If they have never been limed they need applications of ground limestone to raise the pH level sufficiently for good growth of most crops. Available phosphorus and potash levels are naturally low in most of these soils. On all of these soils, additions of lime and fertilizer need to be based on the results of soil tests, on the need of the crop, and on the expected level of yields. The Cooperative Extension Service can help in determining the kinds and amounts of fertilizer and lime to apply.

Soil tilth is an important factor in the germination of seeds and in the infiltration of water into the soil. Soils that have good tilth are granular and porous.

Most of the soils used for crops in the survey area have a fine sandy loam or fine sand surface layer that is light in color and low in content of organic matter. Tilth and infiltration are generally good and are fairly easily maintained by the use of cover crops and by returning crop residues to the soil. Most of the soils used to grow crops can be tilled under a fairly wide range of moisture conditions.

Field crops suited to the soils and climate of the survey area include many that are not now commonly grown. Corn and soybeans are the dominant row crops. Cotton, tobacco, grain sorghum, peanuts, potatoes, and similar crops are well adapted but are seldom grown.

Small grains are not extensively grown in the survey area. Oats, rye, and wheat are grown on a relatively small acreage. Other close-growing crops suited to the climate and soils include rice, barley, buckwheat, and flax.

Truck crops are ideally suited to many areas in the survey area. Relatively mild winters with freeze dates late in fall and frost free dates early in spring, a wide variety of soils, and a good rainfall distribution enhances the truck crop potential of the area. The sandy textured and light colored soils on the sea islands warm up early in spring and are well suited to early tomatoes, squash, leafy vegetables, cucumbers, snap beans, radishes, cabbage, and spring onions. The acreage of most of these truck crops has decreased in recent years, but it can be assumed that under a more favorable economic environment the acreage will increase. Other truck crops that are well suited to the area but not grown in quantity include sweet potatoes, sweet corn, strawberries, celery, asparagus, and peppers. Watermelons are a minor truck crop in the survey area even though a large acreage of soils is well suited for their production.

The latest information and suggestions for growing special crops, as well as the economic outlook, can be obtained from local offices of the Cooperative Extension Service and the Soil Conservation Service.

Pasture is not a major land use in the survey area at this time. According to the Conservation Needs Inventory, only 22,000 acres or less than 3 percent of the area was pasture in 1970. The acreage in pasture has not increased significantly in recent years.

A large percentage of the survey area could be used for pasture if adequate conservation measures were taken. About 165,000 acres of the area is either excessively drained, well drained, or moderately well drained. All of these soils are suited to improved bermudagrass (fig. 8). About 145,000 acres of the area is somewhat poorly drained, and an additional 300,000 acres is either poorly drained or is very poorly drained. When this acreage is cleared and adequately drained, much of it is suited to bahiagrass and other pasture grasses that have a tolerance for wet or moist soils. Nearly all of these soils are heavily wooded. Clearing, draining, and converting these areas to pasture may not be economically feasible.

Yields per acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in tables 7 and 8. In any given year, yields may be higher or lower than those indicated in the tables because of variations in rainfall and other climatic factors. Absence of an estimated yield indicates that the crop is not suited to or not commonly grown on the soil or that a given crop is not commonly irrigated.

The estimated yields were based mainly on the experience and records of farmers, conservationists, and extension agents. Results of field trials and demonstrations and available yield data from nearby counties were also considered.

The yields were estimated assuming that the latest soil and crop management practices were used. Hay and pasture yields were estimated for the most productive varieties of grasses and legumes suited to the climate and the soil. A few farmers may be obtaining average yields higher than those shown in tables 7 and 8.

The management needed to achieve the indicated yields of the various crops depends on the kind of soil and the crop. Such management provides drainage, erosion control, and protection from flooding; the proper planting

and seeding rates; suitable high-yielding crop varieties; appropriate tillage practices, including time of tillage and seedbed preparation and tilling when soil moisture is favorable; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residues, barnyard manure, and green-manure crops; harvesting crops with the smallest possible loss; and timeliness of all fieldwork.

The estimated yields reflect the productive capacity of the soils for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in tables 7 and 8 are grown in the survey area, but estimated yields are not included because the acreage of these crops is small. The local offices of the Soil Conservation Service and the Cooperative Extension Service can provide information about the management concerns and productivity of the soils for these crops.

Capability classes and subclasses

Capability classes and subclasses show, in a general way, the suitability of soils for most kinds of field crops. The soils are classed according to their limitations when they are used for field crops, the risk of damage when they are used, and the way they respond to treatment. The grouping does not take into account major and generally expensive landforming that would change slope, depth, or other characteristics of the soils; does not take into consideration possible but unlikely major reclamation projects; and does not apply to rice, cranberries, horticultural crops, or other crops that require special management. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forest trees, or for engineering purposes.

In the capability system, all kinds of soil are grouped at three levels: capability class, subclass, and unit. In this survey, the soils are grouped only at the capability class and subclass levels. These levels are defined in the following paragraphs. A survey area may not have soils of all classes.

Capability classes, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class I soils have few limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III soils have severe limitations that reduce the choice of plants, or that require special conservation practices, or both.

Class IV soils have very severe limitations that reduce the choice of plants, or that require very careful management, or both.

Class V soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

Class VII soils have very severe limitations that make them unsuitable for cultivation.

Class VIII soils and landforms have limitations that nearly preclude their use for commercial crop production.

Capability subclasses are soil groups within one class; they are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is too cold or too dry.

In class I there are no subclasses because the soils of this class have few limitations. Class V contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class V are subject to little or no erosion, though they have other limitations that restrict their use to pasture, rangeland, woodland, wildlife habitat, or recreation.

The capability subclass is identified in the description of each soil map unit in the section "Soil maps for detailed planning."

Woodland management and productivity

NORMAN W. RUNGE, forester, Soil Conservation Service, assisted in preparing this section.

About 58 percent of the survey area is woodland. The dominant forest type is pine, except in broad, low areas and drainageways. Loblolly pine and slash pine are the more common species. Longleaf pine, pond pine, and others are minor in extent. Hardwoods are commonly intermingled in the dominant pine forest. Hardwoods are the dominant forest type in broad, low areas and drainageways. The more common hardwoods include water oak, sweetgum, blackgum, sycamore, water tupelo, yellow-poplar, and baldcypress.

With the exception of those areas flooded by saltwater, most of the soils in the survey area are well suited to growing trees. About 4 percent of the area has weak to moderate organic-stained layers that restrict root penetration to some extent. The rest of the soils have little or no restrictions to root penetration, unless influenced by a high water table. The climate is very favorable for tree growth. Rainfall averages about 49 inches annually, frost-free days average about 248 days annually, and the relative humidity is commonly high. The overall potential is high for woodland.

The level of woodland management has improved significantly during recent years. Uncontrolled burning, which was generally practiced in the area about two decades ago, has given way to fire protection and/or

prescribed burning. Drainage ditches with access roads on the spoil banks are common in large, low, wet, wooded areas. Droughty areas are furrowed and the seedlings are planted in the furrow, whereas the low, wet areas are bedded and the seedlings planted on the top of the beds. Additional woodland management measures being practiced or considered include genetically improved seedlings, water management to stabilize the water table, and fertilization.

Table 9 contains information useful to woodland owners or forest managers planning use of soils for wood crops. Map unit symbols for soils suitable for wood crops are listed, and the ordination (woodland suitability) group symbol for each soil is given. All soils bearing the same woodland suitability group symbol require the same general kinds of woodland management and have about the same potential productivity.

The first part of the *woodland suitability group symbol*, a number, indicates the potential productivity of the soils for important trees. The number 1 indicates very high productivity; 2, high; 3, moderately high; 4, moderate; and 5, low. The second part of the symbol, a letter, indicates the major kind of soil limitation. The letter *x* indicates stoniness or rockiness; *w*, excessive water in or on the soil; *t*, toxic substances in the soil; *d*, restricted root depth; *c*, clay in the upper part of the soil; *s*, sandy texture; *f*, high content of coarse fragments in the soil profile; and *r*, steep slopes. The letter *o* indicates insignificant limitations or restrictions. If a soil has more than one limitation, priority in placing the soil into a limitation class is in the following order: x, w, t, d, c, s, f, and r.

The third element in the symbol, a numeral, indicates the kind of trees for which the soils in the group are best suited and also indicates the severity of the hazard or limitation. The numerals 1, 2, and 3 indicate slight, moderate, and severe limitations, respectively, and suitability for needleleaf trees. The numerals 4, 5, and 6 indicate slight, moderate, and severe limitations, respectively, and suitability for broadleaf trees. The numerals 7, 8, and 9 indicate slight, moderate, and severe limitations, respectively, and suitability for both needleleaf and broadleaf trees.

In table 9 the soils are also rated for a number of factors to be considered in management. *Slight*, *moderate*, and *severe* are used to indicate the degree of major soil limitations.

Ratings of the *erosion hazard* indicate the risk of loss of soil in well managed woodland. The risk is *slight* if the expected soil loss is small, *moderate* if some measures are needed to control erosion during logging and road construction, and *severe* if intensive management or special equipment and methods are needed to prevent excessive loss of soil.

Ratings of *equipment limitation* reflect the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. A rating of *slight* indicates that use of equipment is not limited to a particular kind of equipment or time of year; *moderate* indicates a short seasonal limitation or a need for some modification in management or equipment; *severe* indicates a seasonal limitation, a need for special equipment or management, or a hazard in the use of equipment.

Seedling mortality ratings indicate the degree that the soil affects expected mortality of planted tree seedlings. Plant competition is not considered in the ratings. Seedlings from good planting stock that are properly planted during a period of sufficient rainfall are rated. A rating of *slight* indicates that the expected mortality of the planted seedlings is less than 25 percent; *moderate*, 25 to 50 percent; and *severe*, more than 50 percent.

The *potential productivity* of merchantable or *important trees* on a soil is expressed as a *site index*. This index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Important trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

Trees to plant are those that are suitable for commercial wood production and that are suited to the soils.

Engineering

W. BURTON WELLS, State conservation engineer, and T. E. DOBBINS, agricultural engineer, Soil Conservation Service, assisted in preparing this section.

This section provides information about the use of soils for building sites, sanitary facilities, construction material, and water management. Among those who can benefit from this information are engineers, landowners, community planners, town and city managers, land developers, builders, contractors, and farmers and ranchers.

The ratings in the engineering tables are based on test data and estimated data in the "Soil properties" section. The ratings were determined jointly by soil scientists and engineers of the Soil Conservation Service using known relationships between the soil properties and the behavior of soils in various engineering uses.

Among the soil properties and site conditions identified by a soil survey and used in determining the ratings in this section were grain-size distribution, liquid limit, plasticity index, soil reaction, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure or aggregation, in-place soil density, and geologic origin of the soil material. Where pertinent, data about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kind of absorbed cations were also considered.

On the basis of information assembled about soil properties, ranges of values can be estimated for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, shear strength, compressibility, slope stability, and other factors of expected soil behavior in en-

gineering uses. As appropriate, these values can be applied to each major horizon of each soil or to the entire profile.

These factors of soil behavior affect construction and maintenance of roads, airport runways, pipelines, foundations for small buildings, ponds and small dams, irrigation projects, drainage systems, sewage and refuse disposal systems, and other engineering works. The ranges of values can be used to (1) select potential residential, commercial, industrial, and recreational uses; (2) make preliminary estimates pertinent to construction in a particular area; (3) evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; (4) evaluate alternative sites for location of sanitary landfills, onsite sewage disposal systems, and other waste disposal facilities; (5) plan detailed onsite investigations of soils and geology; (6) find sources of gravel, sand, clay, and topsoil; (7) plan farm drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; (8) relate performance of structures already built to the properties of the kinds of soil on which they are built so that performance of similar structures on the same or a similar soil in other locations can be predicted; and (9) predict the trafficability of soils for cross-country movement of vehicles and construction equipment.

Data presented in this section are useful for land-use planning and for choosing alternative practices or general designs that will overcome unfavorable soil properties and minimize soil-related failures. Limitations to the use of these data, however, should be well understood. First, the data are generally not presented for soil material below a depth of 5 or 6 feet. Also, because of the scale of the detailed map in this soil survey, small areas of soils that differ from the dominant soil may be included in mapping. Thus, these data do not eliminate the need for onsite investigations, testing, and analysis by personnel having expertise in the specific use contemplated.

The information is presented mainly in tables. Table 10 shows, for each kind of soil, the degree and kind of limitations for building site development; table 11, for sanitary facilities; and table 13, for water management. Table 12 shows the suitability of each kind of soil as a source of construction materials.

The information in the tables, along with the soil map, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations and to construct interpretive maps for specific uses of land.

Some of the terms used in this soil survey have a special meaning in soil science. Many of these terms are defined in the Glossary.

Building site development

The degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, and local roads and streets are indicated in table 10. A *slight* limitation indicates that soil properties generally are favorable for the specified use; any limitation is minor and easily overcome. A *moderate* limitation indicates that soil properties and site features are unfavorable for the specified use, but the limitations can be overcome or minimized by special planning and design. A *severe* limitation indicates that one or more soil properties or site features are so unfavorable or difficult to overcome that a major increase in construction effort, special design, or intensive maintenance is required. For some soils rated severe, such costly measures may not be feasible.

Shallow excavations are made for pipelines, sewerlines, communications and power transmission lines, basements, open ditches, and cemeteries. Such digging or trenching is influenced by soil wetness caused by a seasonal high water table; the texture and consistence of soils; the tendency of soils to cave in or slough; and the presence of very firm, dense soil layers, bedrock, or large stones. In addition, excavations are affected by slope of the soil and the probability of flooding. Ratings do not apply to soil horizons below a depth of 6 feet unless otherwise noted.

In the soil series descriptions, the consistence of each soil horizon is given, and the presence of very firm or extremely firm horizons, usually difficult to excavate, is indicated.

Dwellings and *small commercial buildings* referred to in table 10 are built on undisturbed soil and have foundation loads of a dwelling no more than three stories high. Separate ratings are made for small commercial buildings without basements and for dwellings with and without basements. For such structures, soils should be sufficiently stable that cracking or subsidence of the structure from settling or shear failure of the foundation does not occur. These ratings were determined from estimates of the shear strength, compressibility, and shrink-swell potential of the soil. Soil texture, plasticity and in-place density, potential frost action, soil wetness, and depth to a seasonal high water table were also considered. Soil wetness and depth to a seasonal high water table indicate potential difficulty in providing adequate drainage for basements, lawns, and gardens. Depth to bedrock, slope, and large stones in or on the soil are also important considerations in the choice of sites for these structures and were considered in determining the ratings. Susceptibility to flooding is a serious hazard.

Local roads and streets referred to in table 10 have an all-weather surface that can carry light to medium traffic all year. They consist of a subgrade of the underlying soil material; a base of gravel, crushed rock fragments, or soil material stabilized with lime or cement; and a flexible or rigid surface, commonly asphalt or concrete. The roads are graded with soil material at hand, and most cuts and fills are less than 6 feet deep.

The load supporting capacity and the stability of the soil as well as the quantity and workability of fill material available are important in design and construction of roads and streets. The classifications of the soil and the

soil texture, density, shrink-swell potential, and potential frost action are indicators of the traffic supporting capacity used in making the ratings. Soil wetness, flooding, slope, depth to hard rock or very compact layers, and content of large stones affect stability and ease of excavation.

Sanitary facilities

Favorable soil properties and site features are needed for proper functioning of septic tank absorption fields, sewage lagoons, and sanitary landfills. The nature of the soil is important in selecting sites for these facilities and in identifying limiting soil properties and site features to be considered in design and installation. Also, those soil properties that affect ease of excavation or installation of these facilities will be of interest to contractors and local officials. Table 11 shows the degree and kind of limitations of each soil for such uses and for use of the soil as daily cover for landfills. It is important to observe local ordinances and regulations.

If the degree of soil limitation is expressed as *slight*, soils are generally favorable for the specified use and limitations are minor and easily overcome; if *moderate*, soil properties or site features are unfavorable for the specified use, but limitations can be overcome by special planning and design; and if *severe*, soil properties or site features are so unfavorable or difficult to overcome that major soil reclamation, special design, or intensive maintenance is required. Soil suitability is rated by the terms *good*, *fair*, or *poor*, which, respectively, mean about the same as the terms *slight*, *moderate*, and *severe*.

Suitability of the soil for use as daily cover for sanitary landfill is rated good, fair, or poor. A rating of good means that the soil can easily be used for this purpose, and satisfactory results are expected with good management. A rating of fair means that moderate problems may be encountered in obtaining the material or placing it as cover or in getting the desired results. A rating of poor means that severe problems are expected in getting and placing the material or in getting it to perform the desired functions.

Septic tank absorption fields are subsurface systems of tile or perforated pipe that distribute effluent from a septic tank into the natural soil. Only the soil horizons between depths of 18 and 72 inches are evaluated for this use. The soil properties and site features considered are those that affect the absorption of the effluent and those that affect the construction of the system.

Properties and features that affect absorption of the effluent are permeability, depth to seasonal high water table, depth to bedrock, and susceptibility to flooding. Stones, hardpans, and shallowness to bedrock interfere with installation. Excessive slope can cause lateral seepage and surfacing of the effluent. Also, soil erosion and soil slippage are hazards if absorption fields are installed on sloping soils.

In some soils, loose sand and gravel or fractured bedrock is less than 4 feet below the tile lines. In these soils the absorption field does not adequately filter the effluent, and ground water in the area may be contaminated.

On many of the soils that have moderate or severe limitations for use as septic tank absorption fields, a system to lower the seasonal water table can be installed or the size of the absorption field can be increased so that performance is satisfactory.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons have a nearly level floor and cut slopes or embankments of compacted soil material. Aerobic lagoons generally are designed to hold sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Soils that are very high in content of organic matter and those that have cobbles, stones, or boulders are not suitable. Unless the soil has very slow permeability, contamination of ground water is a hazard where the seasonal high water table is above the level of the lagoon floor. In soils where the water table is seasonally high, seepage of ground water into the lagoon can seriously reduce the lagoon's capacity for liquid waste. Slope, depth to bedrock, and susceptibility to flooding also affect the suitability of sites for sewage lagoons or the cost of construction. Shear strength and permeability of compacted soil material affect the performance of embankments.

Sanitary landfill is a method of disposing of solid waste by placing refuse in successive layers either in excavated trenches or on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil material. Landfill areas are subject to heavy vehicular traffic. Risk of polluting ground water and trafficability affect the suitability of a soil for this use. The best soils have a loamy or silty texture, have moderate to slow permeability, are deep to a seasonal water table, and are not subject to flooding. Clayey soils are likely to be sticky and difficult to spread. Sandy or gravelly soils generally have rapid permeability, which might allow noxious liquids to contaminate ground water. Soil wetness can be a limitation, because operating heavy equipment on a wet soil is difficult. Seepage into the refuse increases the risk of pollution of ground water.

Ease of excavation affects the suitability of a soil for the trench type of landfill. A suitable soil is deep to bedrock and free of large stones and boulders. If the seasonal water table is high, water will seep into trenches.

Unless otherwise stated, the limitations in table 11 apply only to the soil material within a depth of about 6 feet. If the trench is deeper, a limitation of slight or moderate may not be valid. Site investigation is needed before a site is selected.

Daily cover for landfill should be soil that is easy to excavate and spread over the compacted fill in wet and

dry periods. Soils that are loamy or silty and free of stones or boulders are better than other soils. Clayey soils may be sticky and difficult to spread; sandy soils may be subject to soil blowing.

The soils selected for final cover of landfills should be suitable for growing plants. Of all the horizons, the A horizon in most soils has the best workability, more organic matter, and the best potential for growing plants. Thus, for either the area- or trench-type landfill, stockpiling material from the A horizon for use as the surface layer of the final cover is desirable.

Where it is necessary to bring in soil material for daily or final cover, thickness of suitable soil material available and depth to a seasonal high water table in soils surrounding the sites should be evaluated. Other factors to be evaluated are those that affect reclamation of the borrow areas. These factors include slope, erodibility, and potential for plant growth.

Construction materials

The suitability of each soil as a source of roadfill, sand, gravel, and topsoil is indicated in table 12 by ratings of good, fair, or poor. The texture, thickness, and organic-matter content of each soil horizon are important factors in rating soils for use as construction materials. Each soil is evaluated to the depth observed, generally about 6 feet.

Roadfill is soil material used in embankments for roads. Soils are evaluated as a source of roadfill for low embankments, which generally are less than 6 feet high and less exacting in design than high embankments. The ratings reflect the ease of excavating and working the material and the expected performance of the material where it has been compacted and adequately drained. The performance of soil after it is stabilized with lime or cement is not considered in the ratings, but information about some of the soil properties that influence such performance is given in the descriptions of the soil series.

The ratings apply to the soil material between the A horizon and a depth of 5 to 6 feet. It is assumed that soil horizons will be mixed during excavation and spreading. Many soils have horizons of contrasting suitability within their profile. The estimated engineering properties in table 16 provide specific information about the nature of each horizon. This information can help determine the suitability of each horizon for roadfill.

Soils rated *good* are coarse grained. They have low shrink-swell potential, low potential frost action, and few cobbles and stones. They are at least moderately well drained and have slopes of 15 percent or less. Soils rated *fair* have a plasticity index of less than 15 and have other limiting features, such as moderate shrink-swell potential, moderately steep slopes, wetness, or many stones. If the thickness of suitable material is less than 3 feet, the entire soil is rated *poor.*

Sand and *gravel* are used in great quantities in many kinds of construction. The ratings in table 12 provide guidance as to where to look for probable sources and are based on the probability that soils in a given area contain sizable quantities of sand or gravel. A soil rated *good* or *fair* has a layer of suitable material at least 3 feet thick, the top of which is within a depth of 6 feet. Coarse fragments of soft bedrock material, such as shale and siltstone, are not considered to be sand and gravel. Fine-grained soils are not suitable sources of sand and gravel.

The ratings do not take into account depth to the water table or other factors that affect excavation of the material. Descriptions of grain size, kinds of minerals, reaction, and stratification are given in the soil series descriptions and in table 16.

Topsoil is used in areas where vegetation is to be established and maintained. Suitability is affected mainly by the ease of working and spreading the soil material in preparing a seedbed and by the ability of the soil material to support plantlife. Also considered is the damage that can result at the area from which the topsoil is taken.

The ease of excavation is influenced by the thickness of suitable material, wetness, slope, and amount of stones. The ability of the soil to support plantlife is determined by texture, structure, and the amount of soluble salts or toxic substances. Organic matter in the A1 or Ap horizon greatly increases the absorption and retention of moisture and nutrients. Therefore, the soil material from these horizons should be carefully preserved for later use.

Soils rated *good* have at least 16 inches of friable loamy material at their surface. They are free of stones and cobbles, are low in content of gravel, and have gentle slopes. They are low in soluble salts that can limit or prevent plant growth. They are naturally fertile or respond well to fertilizer. They are not so wet that excavation is difficult during most of the year.

Soils rated *fair* are loose sandy soils or firm loamy or clayey soils in which the suitable material is only 8 to 16 inches thick or soils that have appreciable amounts of gravel, stones, or soluble salt.

Soils rated *poor* are very sandy soils and very firm clayey soils; soils with suitable layers less than 8 inches thick; soils having large amounts of gravel, stones, or soluble salt; steep soils; and poorly drained soils.

Although a rating of *good* is not based entirely on high content of organic matter, a surface horizon is generally preferred for topsoil because of its organic-matter content. This horizon is designated as A1 or Ap in the soil series descriptions. The absorption and retention of moisture and nutrients for plant growth are greatly increased by organic matter.

Water management

Many soil properties and site features that affect water management practices have been identified in this soil survey. In table 13 the degree of soil limitation and soil and site features that affect use are indicated for each kind of soil. This information is significant in planning, installing, and maintaining water control structures.

Soil and site limitations are expressed as slight, moderate, and severe. *Slight* means that the soil properties and site features are generally favorable for the specified use and that any limitation is minor and easily overcome. *Moderate* means that some soil properties or site features are unfavorable for the specified use but can be overcome or modified by special planning and design. *Severe* means that the soil properties and site features are so unfavorable and so difficult to correct or overcome that major soil reclamation, special design, or intensive maintenance is required.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have a low seepage potential, which is determined by permeability and the depth to fractured or permeable bedrock or other permeable material.

Embankments, dikes, and levees require soil material that is resistant to seepage, erosion, and piping and has favorable stability, shrink-swell potential, shear strength, and compaction characteristics. Large stones and organic matter in a soil downgrade the suitability of a soil for use in embankments, dikes, and levees.

Aquifer-fed excavated ponds are bodies of water made by excavating a pit or dugout into a ground-water aquifer. Excluded are ponds that are fed by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Ratings in table 13 are for ponds that are properly designed, located, and constructed. Soil properties and site features that affect aquifer-fed ponds are depth to a permanent water table, permeability of the aquifer, quality of the water, and ease of excavation.

Drainage of soil is affected by such soil properties as permeability; texture; depth to bedrock, hardpan, or other layers that affect the rate of water movement; depth to the water table; slope; stability of ditchbanks; susceptibility to flooding; salinity and alkalinity; and availability of outlets for drainage.

Irrigation is affected by such features as slope, susceptibility to flooding, hazards of water erosion and soil blowing, texture, presence of salts and alkali, depth of root zone, rate of water intake at the surface, permeability of the soil below the surface layer, available water capacity, need for drainage, and depth to the water table.

Grassed waterways are constructed to channel runoff to outlets at a nonerosive velocity. Features that affect the use of soils for waterways are slope, permeability, erodibility, wetness, and suitability for permanent vegetation.

Recreation

WILLIAM W. NEELY, biologist, Soil Conservation Service, assisted in preparing this section and also the section on Wildlife Habitat.

The soil survey area has potential for a wide variety of recreation uses. Broad sandy beaches are extensive on Hunting, Fripp, and Hilton Head Islands. These and other sea islands are well suited for swimming, sunbathing, and fishing. The many rivers and streams, in addition to the ocean, offer excellent fishing for a wide variety of fish. The sandy sea islands with their semitropical atmosphere are well suited to golf courses (fig. 9). In recent years numerous fine golf courses have been developed and are frequently used. The area offers some of the best hunting in the southeast. Quail, deer, and wild turkey are common in many areas. Although most areas are either a little too wet or too sandy to be ideally suitable for some recreational uses, there are many areas that can be used for camp areas, picnic areas, playgrounds, and paths and trails.

The soils of the survey area are rated in table 14 according to limitations that affect their suitability for recreation uses. The ratings are based on such restrictive soil features as flooding, wetness, slope, and texture of the surface layer. Not considered in these ratings, but important in evaluating a site, are location and accessibility of the area, size and shape of the area and its scenic quality, the ability of the soil to support vegetation, access to water, potential water impoundment sites available, and either access to public sewerlines or capacity of the soil to absorb septic tank effluent. Soils subject to flooding are limited, in varying degree, for recreation use by the duration and intensity of flooding and the season when flooding occurs. Onsite assessment of height, duration, intensity, and frequency of flooding is essential in planning recreation facilities.

The degree of the limitation of the soils is expressed as slight, moderate, or severe. *Slight* means that the soil properties are generally favorable and that the limitations are minor and easily overcome. *Moderate* means that the limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or by a combination of these measures.

The information in table 14 can be supplemented by information in other parts of this survey. Especially helpful are interpretations for septic tank absorption fields, given in table 11, and interpretations for dwellings without basements and for local roads and streets, given in table 10.

Camp areas require such site preparation as shaping and leveling for tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils for this use have mild slopes and are not wet or subject to flooding during the period of use. The surface has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing camping sites.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for use as picnic areas are firm when wet, are not dusty when dry, are not subject to flooding

during the period of use, and do not have slopes or stones or boulders that will increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones or boulders, is firm after rains, and is not dusty when dry. If shaping is required to obtain a uniform grade, the depth of the soil over bedrock or hardpan should be enough to allow necessary grading.

Paths and trails for walking, horseback riding, bicycling, and other uses should require little or no cutting and filling. The best soils for this use are those that are not wet, are firm after rains, are not dusty when dry, and are not subject to flooding more than once during the annual period of use. They should have moderate slopes and have few or no stones or boulders on the surface.

Wildlife habitat

The survey area is well known for its potential for wildlife, and in many areas it is a primary consideration. Areas suited to openland, woodland, and wetland wildlife are fairly well distributed throughout the survey area. The cultivated fields on the sea islands and in the northern part of Jasper County are suitable for quail and other openland wildlife. The large wooded areas in the central part of Jasper County and in the northern part of Beaufort County are suitable for deer, wild turkey, and other woodland wildlife. The southeastern section of the survey area has an extensive amount of marshland that extends inland for many miles along the major streams. These marsh areas are suitable for ducks, geese, and other wetland wildlife.

Soils directly affect the kind and amount of vegetation that is available to wildlife as food and cover, and they affect the construction of water impoundments. The kind and abundance of wildlife that populate an area depend largely on the amount and distribution of food, cover, and water. If any one of these elements is missing, is inadequate, or is inaccessible, wildlife either are scarce or do not inhabit the area.

If the soils have the potential, wildlife habitat can be created or improved by planting appropriate vegetation (fig. 10), by maintaining the existing plant cover, or by helping the natural establishment of desirable plants.

In table 15, the soils in the survey area are rated according to their potential to support the main kinds of wildlife habitat in the area. All the soils in subclass w (wetness hazard) are rated for a drained condition. This information can be used in planning for parks, wildlife refuges, nature study areas, and other developments for wildlife; selecting areas that are suitable for wildlife; selecting soils that are suitable for creating, improving, or maintaining specific elements of wildlife habitat; and determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* means that the element of wildlife habitat or the kind of habitat is easily created, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected if the soil is used for the designated purpose. A rating of *fair* means that the element of wildlife habitat or kind of habitat can be created, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* means that limitations are severe for the designated element or kind of wildlife habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* means that restrictions for the element of wildlife habitat or kind of wildlife are very severe, and that unsatisfactory results can be expected. Wildlife habitat is impractical or even impossible to create, improve, or maintain on soils having such a rating.

The elements of wildlife habitat are briefly described in the following paragraphs.

Grain and seed crops are seed-producing annuals used by wildlife. The major soil properties that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes that are planted for wildlife food and cover. Major soil properties that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flood hazard, and slope. Soil temperature and soil moisture are also considerations. Examples of grasses and legumes are bicolor lespedeza, panicgrass, annual lespedeza, white clover, coastal bermudagrass, and shrub lespedeza.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds, that provide food and cover for wildlife. Major soil properties that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of wild herbaceous plants are lespedeza, wildbean, goldenrod, beggarweed, pokeweed, and partridgepea.

Hardwood trees and the associated woody understory provide cover for wildlife and produce nuts or other fruit, buds, catkins, twigs, bark, or foliage that wildlife eat. Major soil properties that affect growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of native plants are oak, poplar, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are commercially available and suitable for planting on soils rated *good* are autumn-olive and crabapple.

Coniferous plants are cone-bearing trees, shrubs, or ground cover plants that furnish habitat or supply food in the form of browse, seeds, or fruitlike cones. Soil properties that have a major effect on the growth of coniferous plants are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine and cedar.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites, exclusive of submerged or floating aquatics. They produce food or cover for wildlife that use wetland as habitat. Major soil properties affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, and slope. Examples of wetland plants are smartweed, wild millet, wildrice, saltgrass, and cordgrass and rushes, sedges, and reeds.

Shallow water areas are bodies of water that have an average depth of less than 5 feet and that are useful to wildlife. They can be naturally wet areas, or they can be created by dams or levees or by water-control structures in marshes or streams. Major soil properties affecting shallow water areas are depth to organic pans, wetness, slope, and permeability. The availability of a dependable water supply is important if water areas are to be developed. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The kinds of wildlife habitat are briefly described in the following paragraphs.

Openland habitat consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The kinds of wildlife attracted to these areas include bobwhite quail, dove, meadowlark, field sparrow, cottontail, and red fox.

Woodland habitat consists of areas of hardwoods or conifers, or a mixture of both, and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, oppossum, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, and bobcat.

Wetland habitat consists of open, marshy or swampy, shallow water areas where water-tolerant plants grow. Some of the wildlife attracted to such areas are ducks, geese, herons, shorebirds, muskrat, mink, and alligator.

Soil properties

Extensive data about soil properties are summarized on the following pages. The two main sources of these data are the many thousands of soil borings made during the course of the survey and the laboratory analyses of selected soil samples from typical profiles.

In making soil borings during field mapping, soil scientists can identify several important soil properties. They note the seasonal soil moisture condition or the presence of free water and its depth. For each horizon in the profile, they note the thickness and color of the soil material; the texture, or amount of clay, silt, sand, and gravel or other coarse fragments; the structure, or the natural pattern of cracks and pores in the undisturbed soil; and the consistence of the soil material in place under the existing soil moisture conditions. They record the depth of plant roots, determine the pH or reaction of the soil, and identify any free carbonates.

Samples of soil material are analyzed in the laboratory to verify the field estimates of soil properties and to determine all major properties of key soils, especially properties that cannot be estimated accurately by field observation. Laboratory analyses are not conducted for all soil series in the survey area, but laboratory data for many soil series not tested are available from nearby survey areas.

The available field and laboratory data are summarized in tables. The tables give the estimated range of engineering properties, the engineering classifications, and the physical and chemical properties of each major horizon of each soil in the survey area. They also present data about pertinent soil and water features, engineering test data, and data obtained from physical and chemical laboratory analyses of soils.

Engineering properties

Table 16 gives estimates of engineering properties and classifications for the major horizons of each soil in the survey area.

Most soils have, within the upper 5 or 6 feet, horizons of contrasting properties. Table 16 gives information for each of these contrasting horizons in a typical profile. *Depth* to the upper and lower boundaries of each horizon is indicated. More information about the range in depth and about other properties in each horizon is given for each soil series in the section "Soil series and morphology."

Texture is described in table 16 in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in soil material that is less than 2 millimeters in diameter. "Loam," for example, is soil material that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If a soil contains gravel or other particles coarser than sand, an appropriate modifier is added, for example, "gravelly loam." Other texture terms are defined in the Glossary.

The two systems commonly used in classifying soils for engineering use are the Unified Soil Classification System (Unified) (*2*) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO) (*1*).

The *Unified* system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter, plasticity index, liquid limit, and organic-matter content. Soils are grouped

into 15 classes—eight classes of coarse-grained soils, identified as GW, GP, GM, GC, SW, SP, SM, and SC; six classes of fine-grained soils, identified as ML, CL, OL, MH, CH, and OH; and one class of highly organic soils, identified as Pt. Soils on the borderline between two classes have a dual classification symbol, for example, CL-ML.

The *AASHTO* system classifies soils according to those properties that affect their use in highway construction and maintenance. In this system a mineral soil is classified in one of seven basic groups ranging from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines. At the other extreme, in group A-7, are fine-grained soils. Highly organic soils are classified in group A-8 on the basis of visual inspection.

When laboratory data are available, the A-1, A-2, and A-7 groups are further classified as follows: A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, and A-7-6. As an additional refinement, the desirability of soils as subgrade material can be indicated by a group index number. These numbers range from 0 for the best subgrade material to 20 or higher for the poorest. The AASHTO classification for soils tested in the survey area, with group index numbers in parentheses, is given in table 19. The estimated classification, without group index numbers, is given in table 16.

Percentage of the soil material less than 3 inches in diameter that passes each of four sieves (U.S. standard) is estimated for each major horizon. The estimates are based on tests of soils that were sampled in the survey area and in nearby areas and on field estimates from many borings made during the survey.

Liquid limit and *plasticity index* indicate the effect of water on the strength and consistence of soil. These indexes are used in both the Unified and AASHTO soil classification systems. They are also used as indicators in making general predictions of soil behavior. Range in liquid limit and plasticity index are estimated on the basis of test data from the survey area of from nearby areas and on observations of the many soil borings made during the survey.

In some surveys, the estimates are rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterburg limits extend a marginal amount across classification boundaries (1 or 2 percent), the classification in the marginal zone is omitted.

Physical and chemical properties

Table 17 shows estimated values for several soil characteristics and features that affect behavior of soils in engineering uses. These estimates are given for each major horizon, at the depths indicated, in the typical pedon of each soil. The estimates are based on field observations and on test data for these and similar soils.

Permeability is estimated on the basis of known relationships among the soil characteristics observed in the field—particularly soil structure, porosity, and gradation or texture—that influence the downward movement of water in the soil. The estimates are for vertical water movement when the soil is saturated. Not considered in the estimates is lateral seepage or such transient soil features as plowpans and surface crusts. Permeability of the soil is an important factor to be considered in planning and designing drainage systems, in evaluating the potential of soils for septic tank systems and other waste disposal systems, and in many other aspects of land use and management.

Available water capacity is rated on the basis of soil characteristics that influence the ability of the soil to hold water and make it available to plants. Important characteristics are content of organic matter, soil texture, and soil structure. Shallow-rooted plants are not likely to use the available water from the deeper soil horizons. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design of irrigation systems.

Soil reaction is expressed as a range in pH values. The range in pH of each major horizon is based on many field checks. For many soils, the values have been verified by laboratory analyses. Soil reaction is important in selecting the crops, ornamental plants, or other plants to be grown; in evaluating soil amendments for fertility and stabilization; and in evaluating the corrosivity of soils.

Salinity is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of the nonirrigated soils. The salinity of individual irrigated fields is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of individual fields can differ greatly from the value given in table 17. Salinity affects the suitability of a soil for crop production, its stability when used as a construction material, and its potential to corrode metal and concrete.

Shrink-swell potential depends mainly on the amount and kind of clay in the soil. Laboratory measurements of the swelling of undisturbed clods were made for many soils. For others the swelling was estimated on the basis of the kind and amount of clay in the soil and on measurements of similar soils. The size of the load and the magnitude of the change in soil moisture content also influence the swelling of soils. Shrinking and swelling of some soils can cause damage to building foundations, basement walls, roads, and other structures unless special designs are used. A high shrink-swell potential indicates that special design and added expense may be required if the planned use of the soil will not tolerate large volume changes.

Risk of corrosion pertains to potential soil-induced chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to soil moisture, particle-size distribution, total acidi-

ty, and electrical conductivity of the soil material. The rate of corrosion of concrete is based mainly on the sulfate content, texture, and acidity of the soil. Protective measures for steel or more resistant concrete help to avoid or minimize damage resulting from the corrosion. Uncoated steel intersecting soil boundaries or soil horizons is more susceptible to corrosion than an installation that is entirely within one kind of soil or within one soil horizon.

Erosion factors are used to predict the erodibility of a soil and its tolerance to erosion in relation to specific kinds of land use and treatment (*5*). The soil erodibility factor (K) is a measure of the susceptibility of the soil to erosion by water. Soils having the highest K values are the most erodible. K values range from 0.10 to 0.64. To estimate annual soil loss per acre, the K value of a soil is modified by factors representing plant cover, grade and length of slope, management practices, and climate. The soil-loss tolerance factor (T) is the maximum rate of soil erosion, whether from rainfall or soil blowing, that can occur without reducing crop production or environmental quality. The rate is expressed in tons of soil loss per acre per year.

Soil and water features

Table 18 contains information helpful in planning land uses and engineering projects that are likely to be affected by soil and water features.

Hydrologic soil groups are used to estimate runoff from precipitation. Soils not protected by vegetation are placed in one of four groups on the basis of the intake of water after the soils have been wetted and have received precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist chiefly of deep, well drained to excessively drained sands or gravels. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils that have a layer that impedes the downward movement of water or soils that have moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clay soils that have a high shrink-swell potential, soils that have a permanent high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Flooding is the temporary covering of soil with water from overflowing streams, with runoff from adjacent slopes, and by tides. Water standing for short periods after rains or after snow melts is not considered flooding, nor is water in swamps and marshes. Flooding is rated in general terms that describe the frequency and duration of flooding and the time of year when flooding is most likely. The ratings are based on evidence in the soil profile of the effects of flooding, namely thin strata of gravel, sand, silt, or, in places, clay deposited by floodwater; irregular decrease in organic-matter content with increasing depth; and absence of distinctive soil horizons that form in soils of the area that are not subject to flooding. The ratings are also based on local information about floodwater levels in the area and the extent of flooding; and on information that relates the position of each soil on the landscape to historic floods.

The generalized description of flood hazards is of value in land-use planning and provides a valid basis for land-use restrictions. The soil data are less specific, however, than those provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

High water table is the highest level of a saturated zone more than 6 inches thick for a continuous period of more than 2 weeks during most years. The depth to a seasonal high water table applies to undrained soils. Estimates are based mainly on the relationship between grayish colors or mottles in the soil and the depth to free water observed in many borings made during the course of the soil survey. Indicated in table 18 are the depth to the seasonal high water table; the kind of water table, that is, perched, artesian, or apparent; and the months of the year that the water table commonly is high. Only saturated zones above a depth of 5 or 6 feet are indicated.

Information about the seasonal high water table helps in assessing the need for specially designed foundations, the need for specific kinds of drainage systems, and the need for footing drains to insure dry basements. Such information is also needed to decide whether or not construction of basements is feasible and to determine how septic tank absorption fields and other underground installations will function. Also, a seasonal high water table affects ease of excavation.

Test Data

During the soil survey numerous soil characteristics were determined by various testing laboratories. Included were the soil testing Laboratory at Clemson University, Soil Conservation Service's Soil Survey Laboratory at Beltsville, Maryland, and the South Carolina State Highway Department testing Laboratory at Columbia, South Carolina. This test data refined the classification of the soils and facilitated more precise interpretations.

Physical and chemical analyses of soils

Particle size distribution, commonly referred to as mechanical data, and soil acidity, commonly referred to as pH, were determined for over 90 percent of the soils in the survey area by the soil testing Laboratory at Clemson University. These data are included in the soil descriptions and potentials. The *N*-value, which is the ratio between the water percentage under field conditions and the percentage of inorganic clay and humus, was also determined at the laboratory. The *N*-value is helpful in predicting whether the soil may support grazing by livestock or support other loads. The Bohicket and Levy soils in the survey area have *N*-value too high to support grazing by livestock.

The mineralogy of several soils was determined by the Soil Conservation Service's Soil Survey Laboratory at Beltsville, Maryland. The data and extensive studies by R.B. Daniels and E.E. Gamble, soil scientists, Soil Conservation Service, concluded that the soils below about 42 feet in elevation have *mixed* mineralogy. The results of the data are reflected in the classification of the soils.

The base saturation was established for many soils in the survey area. This brought about the refinement of the classification and interpretation of the soils. Among those soils having more than 35 percent base saturation at 50 inches below the top of the subsoil are the Argent, Okeetee, and Yonges soils. The Santee soils have more than 50 percent base saturation throughout. This is reflected in the classification of the soils in table 20.

Engineering test data

The results of analyses of engineering properties of several typical soils of the survey area are given in table 19.

The data presented are for soil samples that were collected from carefully selected sites. The soil profiles sampled are typical of the series discussed in the section "Soil series and morphology." The soil samples were analyzed by the South Carolina State Highway Department.

The methods used in obtaining the data are listed by code in the next paragraph. Most of the codes, in parentheses, refer to the methods assigned by the American Association of State Highway and Transportation Officials. The codes for Unified classification are those assigned by the American Society for Testing and Materials.

The methods and codes are AASHTO classification (M-145-66); Unified classification (D-2487-69); mechanical analysis (T88-57); liquid limit (T89-60); plasticity index (T90-56); moisture-density, method A (T99-57).

Soil series and morphology

In this section, each soil series recognized in the survey area is described in detail. The descriptions are arranged in alphabetic order by series name.

Characteristics of the soil and the material in which it formed are discussed for each series. The soil is then compared to similar soils and to nearby soils of other series. Then a pedon, a small three-dimensional area of soil that is typical of the soil series in the survey area, is described. The detailed descriptions of each soil horizon follow standards in the Soil Survey Manual (*4*). Unless otherwise noted, colors described are for moist soil.

Following the pedon description is the range of important characteristics of the soil series in this survey area. Phases, or map units, of each soil series are described in the section "Soil maps for detailed planning."

Albany series

The Albany series consists of deep, somewhat poorly drained, moderately permeable soils that formed in deposits of sandy material underlain with loamy sediment. These soils are nearly level. The water table is within 12 to 30 inches of the surface for 1 to 4 months late in winter and early in spring. Slope is generally less than 1 percent, but it ranges up to 2 percent along drainageways.

Albany soils are geographically associated with the Blanton, Chipley, Lakeland, Ocilla, and Pelham soils. Blanton and Lakeland soils are on higher elevations and are moderately well drained and excessively drained, respectively. Chipley soils are moderately well drained and are sandy throughout. Ocilla soils are somewhat poorly drained and have a sandy A horizon that is less than 40 inches thick. Pelham soils are poorly drained and have a sandy A horizon that is less than 40 inches thick.

Typical pedon of Albany loamy fine sand, 0 to 2 percent slopes, in a cultivated area, 5.5 miles southwest of Gillisonville, 1 mile west of intersection of South Carolina Secondary Highway 106 with South Carolina Primary Highway 652, 550 feet north of South Carolina Primary Highway 652:

Ap—0 to 7 inches; very dark gray (10YR 3/1) loamy fine sand; weak fine granular structure; very friable; common fine and medium roots; strongly acid; clear smooth boundary.

A21—7 to 28 inches; light gray (10YR 7/2) loamy fine sand; single grained; loose; few fine and medium roots; strongly acid; gradual wavy boundary.

A22—28 to 50 inches; very pale brown (10YR 7/3) loamy fine sand; common medium and distinct yellowish brown (10YR 5/4) and few medium and distinct light gray (10YR 7/1) mottles; weak fine granular structure; very friable; strongly acid; gradual wavy boundary.

B2tg—50 to 75 inches; light gray (10YR 7/1) sandy clay loam; common medium and distinct brownish yellow (10YR 6/6) and few fine prominent red mottles; weak and medium subangular blocky structure; friable; patchy clay films on faces of some peds; few fine and medium nodules of ironstone; strongly acid.

The thickness of the solum ranges from 60 to 90 inches. Reaction is strongly acid or very strongly acid throughout the profile.

The A horizon is 40 to 60 inches thick. The Ap or A1 horizon is 3 to 12 inches thick and is dark gray or very dark gray. The A2 horizon is 33 to 48 inches thick. It is yellowish brown, brownish yellow, yellow, grayish brown, very pale brown, or light gray in the upper part. It has similar colors in the lower part with an occasional white horizon. Few to many

fine or medium gray, yellow, brown, and red mottles are throughout the horizon. They generally increase with depth. Texture is commonly loamy fine sand but includes loamy sand and fine sand.

The B1 horizon, where present, is 4 to 10 inches thick. It is brownish yellow or light yellowish brown with few to many fine or medium gray and red mottles, or it is variegated with these colors. Texture is fine sandy loam or sandy loam.

The B2tg horizon is 10 to 40 inches thick. It is yellowish brown, brownish yellow, gray, or light gray with few to many fine or medium gray, yellow, brown, and red mottles, or it is variegated with these colors. Texture is commonly sandy clay loam but includes fine sandy loam and sandy loam. The clay content of the upper 20 inches of the B2tg horizon ranges from 18 to 28 percent.

Argent series

The Argent series consists of deep, poorly drained, slowly permeable soils that formed in thick, clayey Coastal Plain sediment. These nearly level soils are on broad, low lying areas and in poorly defined drainageways. They are saturated with water late in winter and early in spring.

Argent soils are geographically associated with the Bladen, Nemours, Okeetee, Santee, and Wahee soils. Bladen soils, which are also poorly drained, are on slightly higher elevations and have a base saturation that is less than 35 percent at 50 inches below the top of the B horizon. Nemours, Okeetee, and Wahee soils are on the low ridges and are better drained than the Argent soils. Santee soils are on the lower elevations, are very poorly drained, and have a thicker, dark colored surface layer than the Argent soils.

Typical pedon of Argent clay loam, in an area of Argent association, 4 miles north of Hardeeville, 1.55 miles north of I-95 interchange with South Carolina Highway 88, 100 feet west of I-95 drainage ditch on west side of southbound lane:

A1—0 to 5 inches; very dark gray (10YR 3/1) clay loam; moderate medium granular structure; very friable; common fine and medium roots; extremely acid; clear wavy boundary.

B21tg—5 to 46 inches; gray (10YR 5/1) clay; many medium distinct brownish yellow (10YR 6/8) and yellowish brown (10YR 5/8) and common medium yellowish red (5YR 4/8) mottles; moderate medium and coarse subangular blocky structure; very firm, very sticky, very plastic; few fine and medium roots; prominent clay films on faces of most peds and in old root channels; few fine flakes of mica; extremely acid; gradual smooth boundary.

B22tg—46 to 64 inches; light olive gray (5Y 6/2) clay; many medium faint pale olive (5Y 6/3) and common medium distinct strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; very firm, very sticky, very plastic; few fine roots; thin patchy clay films on faces of some peds; few fine flakes of mica; very strongly acid; clear smooth boundary.

B3g—64 to 76 inches; greenish gray (5G 6/1) sandy clay loam; common medium faint light olive gray (5Y 6/2) and gray (5Y 5/1) and few medium prominent yellowish red (5YR 4/6) mottles; massive; firm; few fine roots; few fine flakes of mica; slightly acid; clear smooth boundary.

Cg—76 to 80 inches; gray (5Y 6/1) sandy loam; many medium faint greenish gray (5G 6/1) and common medium distinct light yellowish brown (2.5Y 6/4) mottles; massive; friable; common fine flakes of mica; slightly acid.

The thickness of the solum ranges from 50 to 80 inches. Reaction is medium acid through extremely acid to a depth of about 50 to 60 inches. Below this depth it is medium acid through moderately alkaline.

The A horizon is 4 to 13 inches thick. The A1 or Ap horizon is 4 to 8 inches thick. It is black, very dark gray, dark gray, or gray. The A2 horizon, where present, is 3 to 5 inches thick. It is dark gray, gray, light gray, or light brownish gray. The A horizon is sandy loam, fine sandy loam, loam, or clay loam.

The B1 horizon, where present, is 3 to 9 inches thick. It is gray or dark gray with few to common fine or medium yellow and brown mottles. Texture is sandy clay loam.

The B2tg horizon is 30 to 64 inches thick. The upper part is dark gray, gray, or grayish brown with few to many fine or medium yellow, brown, and red mottles. The lower part is gray, light gray, or light olive gray with few to many fine or medium yellow, brown, and red mottles. Texture is clay or sandy clay.

The B3g horizon, where present, is 10 to 31 inches thick. It is light gray, light olive gray, pale olive, or greenish gray with few to many fine or medium red, brown, yellow, and gray mottles. Texture is sandy clay loam, sandy clay, or clay.

The Cg horizon is gray, light gray, light greenish gray, greenish gray, or bluish gray with few to many fine or medium gray, yellow, brown, and red mottles. Texture ranges from sand to sandy clay.

Baratari series

The Baratari series consists of deep, poorly drained, moderate to moderately rapidly permeable soils with weakly cemented organic stained layers that are within 25 inches of the surface. These nearly level soils formed in thick sandy Coastal Plain sediment. They are in broad, low areas. They are saturated with water for about six months during most years. Slope is generally less than 1 percent but ranges up to 2 percent along drainageways.

Baratari soils are geographically associated with the Fripp, Polawana, Ridgeland, Rosedhu, Seabrook, Seewee, and Wando soils. Fripp soils are on narrow ridges paralleling the coastline and are excessively drained. Polawana soils are on the lower elevations and have a thick, dark colored A horizon. Ridgeland soils are somewhat poorly drained and do not have a distinct A2 horizon. Rosedhu soils are very poorly drained and have a black or very dark gray A horizon that is 10 to 16 inches thick. Seabrook soils are moderately well drained and do not have a Bh horizon. Seewee soils are somewhat poorly drained and have a Bh horizon beginning at a depth of 18 to 30 inches. Wando soils are on the higher ridges and are excessively drained.

Typical pedon of Baratari fine sand, about 2 miles northeast of Bluffton, 1.8 miles southeast of junction of South Carolina Primary Highway 46 with U.S. Highway 278, 50 feet on north side of U.S. Highway 278:

A1— 0 to 5 inches; black (10YR 2/1) fine sand; weak fine granular structure; very friable; many fine and medium roots; many clean sand grains give a salt-and-pepper appearance; extremely acid; clear smooth boundary.

A2—5 to 11 inches; light gray (10YR 6/1) fine sand; many medium distinct very dark gray (10YR 3/1) tongues of fine sand along root channels; weak fine granular structure; very friable; few fine and medium roots; very strongly acid; clear wavy boundary.

Bh—11 to 20 inches; dark reddish brown (5YR 2/2) fine sand; weak medium subangular blocky structure parting to weak fine granular; friable; slightly brittle; few fine and medium roots; most sand grains have organic coatings; very strongly acid; abrupt wavy boundary.

A'21—20 to 44 inches; light brownish gray (10YR 6/2) fine sand; common medium distinct very dark gray (10YR 3/1) tongues; single

grained; loose; few fine roots; medium acid; gradual irregular boundary.

A'22—44 to 55 inches; grayish brown (10YR 5/2) fine sand; common medium faint light brownish gray (10YR 6/2) mottles; single grained; loose; slightly acid; clear wavy boundary.

B'h—55 to 70 inches; black (10YR 2/1) fine sand; many medium distinct dark grayish brown (10YR 4/2) mottles; massive; very friable; slightly brittle; strongly acid; gradual wavy boundary.

C&B'h—70 to 80 inches; dark grayish brown (10YR 4/2) fine sand; many medium distinct black (10YR 2/1) bodies of slightly brittle material; very friable; strongly acid.

The soil is strongly acid to extremely acid in about the upper 20 inches and slightly acid to very strongly acid below about 20 inches. Texture is sand or fine sand to a depth of 80 inches or more.

The A horizon is 10 to 25 inches thick. The A1 or Ap horizon is 3 to 9 inches thick. It is black, very dark gray, dark gray, or gray. When dry, this horizon has a salt-and-pepper appearance because of the mixing of organic matter and white sand grains. The A2 horizon is 5 to 17 inches thick. It is gray, grayish brown, light brownish gray, light gray, or white. Some pedons have mottles that are of a higher chroma and have vertical black or very dark gray streaks in this horizon.

The Bh horizon is 4 to 32 inches thick. The Bh and B'h horizons are black, dark reddish brown, reddish brown, very dark brown, or dark brown. Vertical or horizontal tongues or pockets of gray or light gray sand are in places in the horizon.

The A'2 horizon is 9 to 36 inches thick. It is light gray, light brownish gray, grayish brown, light yellowish brown, pale brown, dark yellowish brown, brown, or dark brown. Fragments of the overlying Bh materials are present in some pedons. Some pedons do not have the A'2 and B'h horizons.

The C horizon is dark grayish brown, light brownish gray, pale brown, very pale brown, light gray, or white.

Bertie series

The Bertie series consists of deep, moderately well drained, moderately permeable soils that formed in loamy Coastal Plain sediment. These nearly level soils are on uplands of the Lower Coastal Plain. The water table is within 1.5 to 2.5 feet of the surface late in winter and early in spring. Slopes are generally less than 2 percent.

Bertie soils are geographically associated with the Coosaw, Deloss, Murad, Tomotley, Williman, and Yemassee soils. Coosaw soils occupy somewhat similar and slightly lower positions, and they have a thicker A horizon than Bertie soils. Deloss soils are in depressions and drainageways and have a thicker, darker colored surface layer than Bertie soils. Murad and Yemassee soils are on the lower ridges and are somewhat poorly drained. Tomotley and Williman soils are in low, nearly level areas and are poorly drained.

Typical pedon of Bertie loamy fine sand, 3 miles east of Grays Hill, 1,000 feet east of drainage canal crossing of South Carolina Secondary Highway 71, and 100 feet north of South Carolina Secondary Highway 71:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) loamy fine sand; weak medium granular structure; very friable; common fine roots; few fine holes and pores; few fine concretions; slightly acid; abrupt smooth boundary.

A2—7 to 17 inches; very pale brown (10YR 7/3) loamy fine sand; common medium faint light gray (10YR 7/2) and a few fine distinct brownish yellow mottles; weak medium granular structure; very friable; few fine roots; few fine holes and pores; few fine concretions; slightly acid; clear wavy boundary.

B1—17 to 21 inches; yellowish brown (10YR 5/6) fine sandy loam; common medium distinct red (2.5YR 4/6) and few fine distinct light brownish gray mottles; weak medium subangular blocky structure; friable; few fine roots; few fine holes; many fine pores; upper ped faces bridged with very pale brown (10YR 7/3) loamy fine sand; few fine concretions; strongly acid; clear wavy boundary.

B21t—21 to 27 inches; yellowish brown (10YR 5/6) sandy clay loam; common medium distinct red (2.5YR 5/6), common medium faint brownish yellow (10YR 6/6), and a few fine distinct light brownish gray mottles; weak medium subangular blocky structure; friable; few thin patchy clay films on faces of peds; few fine concretions; very strongly acid; clear wavy boundary.

B22t—27 to 42 inches; yellowish brown (10YR 5/6) sandy clay loam; many medium distinct red (2.5YR 4/8) and light brownish gray (10YR 6/2) and common medium faint brownish yellow (10YR 6/6) and pale brown (10YR 6/3) mottles; weak medium subangular blocky structure; friable; few thin patchy clay films on faces of some peds; common fine lenses of light brownish gray loamy fine sand; few fine dark red nodules; very strongly acid; gradual wavy boundary.

B3g—42 to 57 inches; light gray (2.5Y 7/2) fine sandy loam; common medium prominent red (2.5YR 5/8) and common medium distinct brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; very friable; few lenses of loamy fine sand and pockets of sandy clay loam; very strongly acid; gradual wavy boundary.

C1g—57 to 78 inches; light gray (5Y 7/2) loamy fine sand; common medium prominent light red (2.5YR 6/8) and common medium distinct brownish yellow (10YR 6/6) and pale brown (10YR 6/3) mottles; massive; very friable; common lenses of loamy fine sand and a few pockets of sandy clay loam; few fine flakes of mica; very strongly acid; gradual wavy boundary.

C2g—78 to 85 inches; light gray (5Y 7/1) loamy fine sand; many coarse distinct yellow (10YR 7/6), common medium distinct reddish yellow (5YR 6/6) and brownish yellow (10YR 6/6) mottles; massive; very friable; few fine flakes of mica; strongly acid.

The thickness of the solum ranges from 40 to 60 inches. Reaction is very strongly acid to medium acid throughout the profile except where the surface layer has been limed.

The A horizon is 6 to 19 inches thick. The A1 or Ap horizon is 6 to 12 inches thick. It is very dark grayish brown, dark grayish brown, or dark gray loamy fine sand or loamy sand. Where the A1 or Ap horizon is more than 8 inches thick, it is dark gray or dark grayish brown. The A2 horizon, where present, is 3 to 12 inches thick. It is very pale brown, pale brown, or light yellowish brown loamy fine sand or loamy sand.

The B1 horizon, where present, is 3 to 7 inches thick. It is brownish yellow, yellowish brown, or strong brown. Few to common fine or medium red and gray mottles are in this horizon in some pedons. Texture is fine sandy loam or sandy clay loam.

The B2t horizon is 15 to 30 inches thick. It is light yellowish brown, brownish yellow, yellowish brown, or strong brown. Few to many fine or medium gray, yellow, brown, and red mottles are throughout the horizon. Mottles that have a chroma of 2 or less commonly increase with depth. Texture is commonly sandy clay loam but includes sandy loam and clay loam. Thin lenses of fine sandy loam or loamy fine sand are interspersed in this horizon in most pedons.

The B3g horizon, where present, is 6 to 18 inches thick. It is gray, light gray, light brownish gray, pale brown, or yellowish brown. Few to many fine or medium gray, yellow, brown, and red mottles are throughout the horizon. Texture is fine sandy loam or sandy loam. Lenses of loamy fine sand and pockets of sandy clay loam occur in some pedons.

The Cg horizon is gray, light gray, light brownish gray, light yellowish brown, or brownish yellow. Few to many medium or coarse yellow, brown, and red mottles are throughout the horizon. Texture is sandy loam, loamy fine sand, fine sand, or sand. Lenses and pockets of contrasting textures are common in this horizon.

Bladen series

The Bladen series consists of deep, poorly drained, slowly permeable, nearly level soils that formed in thick clayey Coastal Plain sediment. These soils are in broad, low areas. They are saturated with water for about six months, from November through April, during most years. Low lying areas are commonly flooded during January through April.

Bladen soils are geographically associated with the Argent, Cape Fear, Eulonia, Nemours, and Wahee soils. Argent soils, which are also poorly drained, commonly are on slightly lower elevations and have base saturation that is about 35 percent at 50 inches below the top of the B horizon. Cape Fear soils are on the lowest elevations, and they have a thicker, dark colored surface layer than the Bladen soils. Eulonia and Nemours soils are moderately well drained and are on the higher ridges. Wahee soils are on the low ridges and are somewhat poorly drained.

Typical pedon of Bladen fine sandy loam, forested, 3.5 miles northeast of Gardens Corner, 1 mile east of the intersection of South Carolina Secondary Highway 43 and U.S. Highway 17, 50 feet east of South Carolina Secondary Highway 43:

A1—0 to 5 inches; very dark gray (10YR 3/1) fine sandy loam; moderate medium granular structure; very friable; many fine and few medium roots; extremely acid; clear smooth boundary.

A2—5 to 8 inches; light brownish gray (2.5Y 6/2) fine sandy loam; common fine distinct strong brown mottles; weak medium subangular blocky structure parting to weak fine granular; very friable; few fine and medium roots; common fine splotches of light gray fine sand; very strongly acid; abrupt smooth boundary.

B21tg—8 to 17 inches; gray (5Y 5/1) sandy clay; common medium distinct yellowish brown (10YR 5/6) and common fine distinct strong brown mottles; moderate medium subangular blocky structure; very firm, very sticky, very plastic; patchy clay films on faces of peds; extremely acid; clear wavy boundary.

B22tg—17 to 47 inches; gray (5Y 6/1) clay; common fine distinct strong brown mottles; weak medium subangular blocky structure; very firm, very sticky, very plastic; patchy clay films on faces of peds; extremely acid; clear wavy boundary.

B3g—47 to 69 inches; light olive gray (5Y 6/2) sandy clay loam; many coarse distinct light yellowish brown (10YR 6/4) and common medium distinct brownish yellow (10YR 6/8) and greenish gray (5GY 6/1) mottles; weak medium subangular blocky structure; firm; few fine splotches of light gray fine sand; very strongly acid.

The thickness of the solum is 60 inches or more. Reaction is extremely acid to strongly acid throughout.

The A horizon is 8 to 19 inches thick. The A1 or Ap horizon is 5 to 9 inches thick. It is very dark gray, dark gray, or gray. The A2 horizon, where present, is 2 to 9 inches thick. It is light brownish gray or light gray. Few to common fine or medium yellow and brown mottles are throughout the horizon. Texture of the A horizon is fine sandy loam or loam.

The B1 horizon, where present, is 3 to 8 inches thick. It is gray or light gray with few to many fine or medium brown and yellow mottles. Texture is fine sandy loam or sandy clay loam. Thin lenses and fingers of fine sandy loam or loamy fine sand are common in this horizon.

The B2tg horizon is 30 to 60 inches thick. It is dark gray, gray, light gray, or light brownish gray. Few to many fine or medium gray, yellow, brown, and red mottles are throughout the horizon. Texture is commonly clay but includes sandy clay. Thin lenses, fingers, and pockets of fine sandy loam or loamy fine sand are common in this horizon in some pedons. The clay content of the upper 20 inches of this horizon ranges from 35 to 55 percent.

The B3g horizon is 15 to 28 inches thick. It is gray, light gray, light brownish gray, light olive gray, or grayish brown. Few to many fine or medium gray, olive, yellow, and brown mottles are throughout the horizon. Texture is sandy clay, sandy clay loam, or fine sandy loam. Few to common lenses and pockets of loamy fine sand or fine sand are in some pedons.

Blanton series

The Blanton series consists of deep, moderately well drained, moderately permeable soils that formed in thick sandy and loamy Coastal Plain sediment. These nearly level and gently sloping soils are in broad areas of uplands, and the sloping soils are in areas adjacent to drainageways. Slope is generally less than 2 percent but ranges up to about 10 percent along drainageways.

Blanton soils are geographically associated with the Albany, Chipley, Lakeland, Ocilla, Pelham, and Pickney soils. Albany and Ocilla soils are on slightly lower elevations. Chipley soils occupy positions similar to the Blanton soils and are sandy throughout. Lakeland soils, in most places, are slightly higher in elevation. Pelham and Pickney soils are on the lower elevations in drainageways and depressions, and the Pickney soils have a thick, dark colored surface layer.

Typical pedon of Blanton fine sand, 0 to 6 percent slopes, in a cultivated area, 1.4 miles north of Gillisonville, 150 feet west of South Carolina Primary Highway 128:

Ap—0 to 8 inches; gray (10YR 5/1) fine sand; weak fine granular structure; very friable; many fine and medium roots; strongly acid; clear smooth boundary.

A21—8 to 15 inches; light gray (10YR 6/1) fine sand; few medium distinct white splotches; weak fine granular structure; very friable; common fine and few medium roots; strongly acid; gradual wavy boundary.

A22—15 to 45 inches; very pale brown (10YR 7/3) fine sand; common medium distinct yellow (10YR 7/6) mottles; weak fine granular structure; very friable; few fine roots; strongly acid; clear wavy boundary.

B1—45 to 52 inches; light yellowish brown (10YR 6/4) fine sandy loam; few fine distinct yellowish brown mottles; weak medium subangular blocky structure; friable; very strongly acid; clear wavy boundary.

B21t—52 to 60 inches; light yellowish brown (10YR 6/4) fine sandy loam; common medium distinct yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.

B22t—60 to 80 inches; light yellowish brown (10YR 6/4) sandy clay loam; few medium distinct red (2.5YR 4/8) and few fine distinct gray mottles; weak medium subangular blocky structure; friable; few faint clay films on faces of some peds; very strongly acid.

The thickness of the solum ranges from 60 to more than 80 inches. Reaction is strongly acid or very strongly acid throughout the profile except where the surface layer has been limed.

The A horizon is 43 to 60 inches thick. The A1 or Ap horizon is 2 to 8 inches thick. It is very dark grayish brown, dark grayish brown, gray, or grayish brown. The A2 horizon is 37 to 54 inches thick. It is light gray, light yellowish brown, very pale brown, or yellow. The A horizon is fine sand, loamy sand, or loamy fine sand.

The B1 horizon, where present, is 4 to 10 inches thick. It is light yellowish brown, brownish yellow, or very pale brown. Texture is sandy loam or fine sandy loam.

The B2t horizon is 10 to 40 inches thick. It is light yellowish brown, yellowish brown, brownish yellow, or strong brown. Few to many fine or medium gray, yellow, brown, and red mottles are throughout the

horizon. Gray mottles become more prevalent with depth. Gray is the dominant color in the lower part of some B2t horizons. Texture is commonly sandy clay loam but includes fine sandy loam and sandy loam.

Bohicket series

The Bohicket series consists of deep, very poorly drained, very slowly permeable soils that formed in silty and clayey marine sediment. These level soils are on broad tidal flats less than 3 feet above mean sea level. They are more common on the seaward side of the soil survey area, but they extend inland for many miles along the larger rivers. These soils are flooded by saline water twice daily.

Bohicket soils are geographically associated with Capers and Handsboro soils and are bordered by a variety of soils that are not influenced by seawater. Capers soils are on slightly higher elevations and have higher bearing strength than the Bohicket soils. Handsboro soils are organic soils.

Typical pedon of Bohicket silty clay loam in an area of Bohicket association, in a broad tidal marsh 0.625 mile south of Lobeco, 825 feet north of Whale Branch Bridge, 100 feet west of U.S. Highway 21:

A1g—0 to 10 inches; dark gray (5Y 4/1) silty clay loam; massive; very sticky; strong fine angular blocky structure; many medium and coarse pithy fibrous roots constituting 35 percent of the mass by volume; soil flows easily between fingers when squeezed and leaves small residue in hand; neutral; gradual wavy boundary.

C1g—10 to 49 inches; dark gray (5Y 4/1) silty clay; massive; very sticky; many fine and medium roots; soil flows easily between fingers when squeezed and leaves hand empty; neutral; clear wavy boundary.

C2g—49 to 55 inches; dark gray (5Y 4/1) silty clay and very dark grayish brown (10YR 3/2) fine sandy loam; massive; sticky; few fine roots; soil flows easily between fingers when squeezed and leaves small residue in hand; neutral; clear wavy boundary.

C3g—55 to 68 inches; greenish gray (5GY 5/1) clay; common coarse faint dark gray (5Y 4/1) mottles; massive; sticky; few fine roots; soil flows between fingers with some difficulty when squeezed and leaves large residue in hand; moderately alkaline; gradual wavy boundary.

C4g—68 to 80 inches; dark greenish gray (5GY 4/1) clay; common medium faint greenish gray (5G 5/1) mottles; massive; slightly sticky; few lenses and pockets of dark grayish brown fine sandy loam material; soil flows between fingers with some difficulty when squeezed and leaves large residue in hand; moderately alkaline.

These soils are continuously saturated with seawater. Soil salinity is high or very high. The *N*-value, within the upper 40 inches of the surface, is 1 or more. The soil is slightly acid to moderately alkaline throughout. Pale yellow sulfur compounds are common on the surface of peds that have been drying for 30 days, and at this time the soil is extremely acid.

The Ag horizon is 8 to 14 inches thick. It is black, very dark gray, dark gray, or gray. Texture is clay, silty clay, or silty clay loam. The A horizon has many fine through large pithy fibrous roots constituting 25 through 50 percent of the mass by volume.

The Cg horizon to a depth of about 80 inches is very dark gray, very dark grayish brown, dark gray, dark greenish gray, gray, greenish gray, or light gray. It is clay or silty clay. Some pedons contain pockets and thin layers of sandy loam, loamy sand, and sand. Sea shells range from few to many in some pedons.

Bonneau series

The Bonneau series consists of deep, moderately well drained, moderately permeable soils that formed in loamy Coastal Plain sediment. These nearly level and gently sloping soils are on ridges. The water table is within 3.5 to 5.0 feet of the surface late in winter and early in spring. Slopes are generally less than 1 percent but range up to 2 percent.

Bonneau soils are geographically associated with the Blanton, Goldsboro, Lynchburg, Norfolk, Ocilla, Paxville, Pelham, and Rains soils. Blanton soils are also moderately well drained. They occupy positions that are similar to the Bonneau soils, but have an A horizon that is 40 to 60 inches thick. Goldsboro soils are moderately well drained. They occupy slightly lower elevations than Bonneau soils, and they have an A horizon that is less than 20 inches thick. Lynchburg soils are somewhat poorly drained and are on the lower ridges. Norfolk soils are well drained and on the higher ridges. Ocilla soils are somewhat poorly drained and are on positions slightly lower than the Bonneau soils. Paxville soils are very poorly drained and are in the lower depressions and drainageways. The Pelham and Rains soils are poorly drained and are in low lying areas.

Typical pedon of Bonneau loamy sand, 0 to 2 percent slopes, in a cultivated area; 2 miles west of Ridgeland, 0.25 mile north of the intersection of South Carolina Secondary Highway 22 and South Carolina Primary Highway 336, 175 feet west of South Carolina Secondary Highway 22:

Ap—0 to 9 inches; grayish brown (10YR 5/2) loamy sand; weak medium granular structure; very friable; many fine roots; few fine ironstone pebbles; medium acid; abrupt smooth boundary.

A2—9 to 24 inches; light yellowish brown (10YR 6/4) loamy sand; common medium faint very pale brown (10YR 7/3) and brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; very friable; few fine roots; very strongly acid; clear wavy boundary.

B1—24 to 31 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable; few fine roots; common fine holes and pores; few fine distinct streaks of very pale brown (10YR 7/4) loamy sand in old root channels; very strongly acid; clear wavy boundary.

B21t—31 to 42 inches; yellowish brown (10YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; thin patchy clay films on faces of peds; few fine roots; common fine holes and pores; strongly acid; clear wavy boundary.

B22t—42 to 51 inches; yellowish brown (10YR 5/6) sandy clay loam; common medium distinct red (10R 4/6) mottles, and few fine faint light yellowish brown and strong brown mottles; weak medium subangular blocky structure; friable; thin patchy clay films on faces of some peds; few fine roots; very strongly acid; clear wavy boundary.

B3—51 to 65 inches; brownish yellow (10YR 6/6) sandy clay; many medium prominent red (2.5YR 4/6), and common medium distinct gray (10YR 6/1) and reddish yellow (7.5YR 6/8) mottles; weak medium subangular blocky structure; firm; thin patchy clay films on faces of some peds; few plinthite nodules; few fine flakes of mica; very strongly acid; gradual wavy boundary.

C—65 to 83 inches; mottled red, brown, yellow, and gray sandy clay loam with pockets and strata of sandy loam and sandy clay; massive; friable in some parts and firm in others; few plinthite nodules; few fine flakes of mica; very strongly acid.

The thickness of the solum ranges from 60 to more than 80 inches. Reaction is very strongly acid or strongly acid throughout except where limed.

The A horizon is 21 to 38 inches thick. The A1 or Ap horizon is 5 to 9 inches thick. It is dark gray, dark grayish brown, or grayish brown. The A2 horizon is 12 to 31 inches thick. It is light yellowish brown, yellowish brown, pale brown, or brownish yellow. Few to common fine or medium yellow and brown mottles are throughout the horizon. The A horizon is commonly loamy sand but includes loamy fine sand and fine sand.

The B1 horizon, where present, is 3 to 8 inches thick. It is brownish yellow, yellowish brown, or strong brown sandy loam or sandy clay loam. Few to common fine or medium yellow, brown, and red mottles occur in some pedons.

The B2t horizon is 18 to 34 inches thick. It is brownish yellow, yellowish brown, or strong brown sandy clay loam. Few to many fine and medium yellow, brown, and red mottles generally occur throughout the horizon, and they generally increase with depth. Gray mottles are between 30 and 60 inches below the surface.

The B3 horizon is 6 to 20 inches thick. It is brownish yellow, yellowish brown, or strong brown with few to many medium or coarse gray, yellow, brown, and red mottles, or it is variegated with these colors. Texture is sandy loam, sandy clay loam, or sandy clay.

The C horizon commonly is mottled gray, yellow, brown, and red. Texture is loamy sand, sandy loam, sandy clay loam, or sandy clay.

Buncombe series

The Buncombe series consists of excessively drained, rapidly permeable soils that formed in thick sandy alluvial sediment. These nearly level soils are in broad areas and in somewhat narrow, elongated areas. Depth to the seasonal high water table is more than 60 inches. Slopes are generally less than 2 percent.

Buncombe soils are geographically associated with the Chastain and Tawcaw soils. Chastain soils are poorly drained, have finer textures throughout, and are in depressions and drainageways. Tawcaw soils are somewhat poorly drained, have fine textures throughout, and are on low ridges.

Typical pedon of Buncombe sand in an area of Buncombe association, 5 miles south of Robertsville, 2.5 miles southeast of Seaboard Coast Line railroad crossing of South Carolina Secondary Highway 119, 500 yards north of South Carolina Secondary Highway 119:

A11—0 to 3 inches; very dark grayish brown (10YR 3/2) sand; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; abrupt smooth boundary.

A12—3 to 7 inches; yellowish brown (10YR 5/4) sand; common medium distinct very dark grayish brown (10YR 3/2) streaks; weak fine granular structure; very friable; common fine and medium roots; strongly acid; clear wavy boundary.

C1—7 to 23 inches; brownish yellow (10YR 6/8) sand; few medium faint dark brown (7.5YR 4/4) mottles; single grained; loose; few fine and medium roots; common uncoated sand grains; few fine black minerals; strongly acid; clear wavy boundary.

C2—23 to 80 inches; very pale brown (10YR 8/4) sand; single grained; loose; common distinct brownish yellow sand grains; common uncoated sand grains; many fine black minerals; few fine flakes of mica; strongly acid; gradual wavy boundary.

C3—80 to 90 inches; very pale brown (10YR 8/4) sand; single grained; loose; many distinct brownish yellow sand grains; many fine black minerals; few fine flakes of mica; medium acid.

Sand is more than 80 inches thick. Reaction is very strongly acid to medium acid throughout except where the surface layer has been limed.

The A horizon is 6 to 13 inches thick. The A11 or Ap horizon is 3 to 13 inches thick. It is very dark grayish brown, dark grayish brown, dark brown, or brown. Where the A11 or Ap horizon is very dark grayish brown or dark brown it is less than 7 inches thick. The A12 horizon, where present, is about 4 inches thick and is yellowish brown.

The C horizon, to a depth of more than 80 inches, is dominantly sand. It is strong brown, light yellowish brown, or brownish yellow in the upper part and very pale brown or yellow in the lower part. Few to common fine or medium yellow and brown mottles are throughout the horizon. Fine black minerals and fine flakes of mica range from few to many in most pedons. Thin strata of loamy sand occur in some pedons below 40 inches.

Cape Fear series

The Cape Fear series consists of very poorly drained, slowly permeable soils that formed in thick clayey Coastal Plain sediment. These nearly level soils are in low, slightly concave areas and poorly defined drainageways. They are saturated with water during winter and spring, and some areas are frequently flooded during these seasons. Slope is generally less than 1 percent.

Cape Fear soils are geographically associated with the Bladen, Eulonia, Nemours, and Wahee soils. Bladen soils are in broad, nearly level, low areas, have a thinner, dark colored surface layer than the Cape Fear soils, and are poorly drained. Eulonia and Nemours are on the higher ridges and are moderately well drained. Wahee soils are on the low ridges and are somewhat poorly drained.

Typical pedon of Cape Fear loam, forested, 10.75 miles south of Ridgeland, 3,900 feet north of South Carolina Secondary Highway 141 crossing of Seaboard Coast Line Railroad:

A1—0 to 10 inches; black (10YR 2/1) loam; weak medium granular structure; friable; slightly sticky; many fine and medium roots; very strongly acid; clear smooth boundary.

B1g—10 to 16 inches; very dark gray (10YR 3/1) clay loam; weak medium subangular blocky structure; firm, slightly sticky, slightly plastic; faint patchy clay films on faces of peds; common fine roots; few streaks of black loam in old root channels; very strongly acid; clear wavy boundary.

B21tg—16 to 42 inches; gray (10YR 5/1) clay; common medium distinct brownish yellow (10YR 6/8) and strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; firm, plastic, slightly sticky; patchy clay films in old root channels and on faces of some peds; common fine roots; very strongly acid; gradual wavy boundary.

B22tg—42 to 50 inches; gray (10YR 5/1) clay; many medium distinct light olive gray (5Y 6/2), common medium distinct brownish yellow (10YR 5/8), and few fine distinct strong brown and greenish gray mottles; weak medium subangular blocky structure; firm, sticky, plastic; faint patchy clay films on faces of peds; few fine roots; strongly acid; gradual wavy boundary.

B3g—50 to 74 inches; light gray (10YR 7/1) sandy clay loam; common medium distinct yellowish brown (10YR 5/6), brownish yellow (10YR 6/6), and strong brown (7.5YR 5/6) mottles; massive; friable; few fine flakes of mica; common medium brownish yellow chert fragments; strongly acid; clear wavy boundary.

Cg—74 to 80 inches; light gray (10YR 7/2) loamy sand; single grained; loose; few fine flakes of mica; strongly acid.

The thickness of the solum ranges from 40 to more than 60 inches. Reaction is very strongly acid to medium acid throughout the profile except where the surface layer has been limed. Flakes of mica and other weatherable minerals are common in most pedons.

The A horizon is 10 to 20 inches thick. The A1 or Ap horizon is black or very dark gray fine sandy loam or loam. The A2 horizon, where present, is 3 to 8 inches thick. It is very dark gray or dark gray fine sandy loam or loam.

The B1g horizon, where present, is 3 to 13 inches thick. It is very dark gray, dark gray, or dark grayish brown clay loam or loam.

The B2tg horizon is 25 to 45 inches thick. It is dark gray, dark grayish brown, gray, or light brownish gray clay or sandy clay. The clay content of the upper 20 inches of the B2tg horizon ranges from 35 to 55 percent. Few to many mottles in shades of gray, yellow, and brown are throughout the horizon.

The B3g horizon is 5 to 25 inches thick. It is grayish brown, gray, light gray, or light brownish gray sandy clay or sandy clay loam. Few to many mottles in shades of gray, yellow, and brown are throughout the horizon.

The Cg horizon, to a depth of about 80 inches, is light gray, light brownish gray, or grayish brown loamy sand or sandy loam.

Capers series

The Capers series consists of very poorly drained, very slowly permeable soils that formed in silty and clayey marine sediment. These nearly level soils are on broad, tidal flats and along the lower reaches of larger streams that flow into the tidal flats. Capers soils are flooded by brackish or saltwater at least twice per month and, in some places, twice daily.

Capers soils are geographically associated with the Bohicket, Handsboro, Hobonny, and Levy soils. Bohicket soils are on slightly lower elevations and are covered twice daily by saltwater to a depth of 6 to 48 inches. Bohicket soils have significantly less bearing strength with an *N*-value of more than 1. Handsboro soils are dominantly organic soils to a depth of 32 inches or more. Hobonny soils are organic soils that have no significant sulfur content and are not flooded by saline water. Levy soils are mineral soils that are not influenced by saline water.

Typical pedon of Capers silty clay loam in an area of Capers association that is flooded less than 6 inches daily by brackish water, 1,350 feet south of Gardens Corner, 550 feet west of U.S. Highway 21:

A11—0 to 7 inches; very dark gray (10YR 3/1) silty clay loam; massive; very sticky; many medium pithy roots; many fine roots; moderately alkaline; gradual wavy boundary.

A12—7 to 22 inches; dark gray (10YR 4/1) clay loam; common medium faint gray (10YR 5/1) mottles; massive; sticky; common medium and fine roots; few fine uncoated sand grains; mildly alkaline; gradual wavy boundary.

C1g—22 to 33 inches; gray (5Y 5/1) clay loam; many coarse faint dark gray (5Y 4/1) and few medium distinct olive (5Y 5/3) mottles; massive; firm; few medium and common fine roots; few fine uncoated sand grains; moderately alkaline; gradual wavy boundary.

C2g—33 to 45 inches; greenish gray (5GY 5/1) clay; common medium distinct olive brown (2.5Y 4/4) and common medium faint dark gray (5Y 4/1) mottles; massive; firm; few medium and fine roots; few fine flakes of mica; few fine uncoated sand grains; moderately alkaline; gradual wavy boundary.

C3g—45 to 68 inches; greenish gray (5GY 5/1) sandy clay; common medium faint dark greenish gray (5GY 4/1) and few fine distinct olive gray mottles; massive; firm; few fine flakes of mica; few fine uncoated sand grains; moderately alkaline; clear wavy boundary.

C4g—68 to 84 inches; gray (5Y 5/1) sandy clay loam with pockets of fine sandy loam; common medium distinct greenish gray (5GY 5/1) and light brownish gray (2.5Y 6/2) mottles; massive; friable; few fine and medium shell fragments; moderately alkaline.

Reaction is neutral to moderately alkaline throughout. Pale yellow sulfur compounds are common on surface of peds that have dried, and the soil becomes extremely acid. An organic surface layer that is 3 to 15 inches thick is present in some pedons.

The A horizon is 4 to 22 inches thick. It is black, very dark gray, dark gray, or gray silty clay loam, clay loam, or clay.

The Cg horizon to a depth of about 84 inches is gray, grayish brown, dark gray, dark grayish brown, olive gray, or greenish gray. The greenish gray colors are commonly more prevalent at depths between 30 and 70 inches. Texture is clay, silty clay, silty clay loam, sandy clay, or clay loam to a depth of about 60 inches. Below this depth coarser textures are common. Few to many shell fragments, fine flakes of mica, and uncoated sand grains occur in some pedons.

Chastain series

The Chastain series consists of poorly drained, slowly permeable soils that formed in clayey alluvial sediment. These nearly level soils are on flood plains. They are subject to common flooding and the water table is at or near the surface for 6 months or more during most years.

Chastain soils are geographically associated with the Buncombe and Tawcaw soils. Buncombe soils are on the higher ridges, are excessively drained, and are sandy throughout. The nearly level Tawcaw soils are on low ridges in the flood plain. They are commonly only a few inches higher than the Chastain soils and are somewhat poorly drained.

Typical pedon of Chastain clay loam from an area of Tawcaw-Chastain association, 6 miles northwest of Tillman, 1.2 miles west of South Carolina Secondary Highway 119 at Groves Landing Road, 300 feet west of Groves Landing:

A1—0 to 4 inches; gray (10YR 5/1) clay loam; common fine distinct yellowish red mottles; weak fine subangular blocky structure; firm; many fine and medium roots; few fine flakes of mica; very strongly acid; clear smooth boundary.

B21g—4 to 16 inches; gray (10YR 5/1) clay loam; many medium distinct strong brown (7.5YR 5/6) and common medium prominent yellowish red (5YR 4/6) mottles; moderate medium subangular blocky structure; firm; common fine and medium roots; few fine flakes of mica; pressure faces on peds; very strongly acid; gradual smooth boundary.

B22g—16 to 32 inches; light brownish gray (2.5Y 6/2) clay; common medium distinct yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; very firm; few fine roots; few fine flakes of mica; pressure faces on peds; strongly acid; gradual smooth boundary.

B23g—32 to 54 inches; light brownish gray (2.5Y 6/2) clay; many coarse distinct strong brown (7.5YR 5/6) and common medium distinct olive brown (2.5Y 4/4) mottles; massive; very firm; few fine roots; few fine flakes of mica; strongly acid; gradual wavy boundary.

C1g—54 to 68 inches; gray (5Y 6/1) clay; many coarse distinct yellowish brown (10YR 5/8) and common medium distinct strong brown (7.5YR 5/6) mottles; massive; very firm; few fine flakes of mica; strongly acid; gradual wavy boundary.

C2g—68 to 80 inches; gray (5Y 6/1) clay; many coarse distinct yellowish brown (10YR 5/6), common medium distinct dark brown (7.5YR 4/4), and common medium faint greenish gray (5GY 6/1) mottles; massive; very firm; few fine flakes of mica; strongly acid.

The thickness of the solum ranges from about 40 to 72 inches. Reaction is very strongly acid to strongly acid throughout. Flakes of mica range from few to common.

The B2g horizon is 34 to 50 inches thick. It is gray, light brownish gray, or grayish brown and has few to many mottles in shades of yellow, brown, and red. Texture is silty clay loam, clay loam, silty clay, or clay.

The B3g horizon, where present, is 4 to 10 inches thick. It is gray, light gray, or light brownish gray and has few to common mottles in shades of yellow and brown. Texture commonly is silty clay loam but includes clay loam, silty clay, and clay.

The Cg horizon is gray or light gray and has few to many mottles in shades of gray, yellow, and brown. Texture ranges from sand to clay.

Chipley series

The Chipley series consists of moderately well drained, rapidly permeable soils that formed in thick sandy Coastal Plain sediment. These nearly level soils are on broad ridges. These soils have seasonal water tables between depths of 24 and 36 inches for 2 to 4 months during most years. Slopes are generally less than 1 percent but range up to about 2 percent.

Chipley soils are geographically associated with the Albany, Blanton, Echaw, Lakeland, Osier, and Pickney soils. Albany soils are commonly on slightly lower elevations, are somewhat poorly drained, and have a Bt horizon below 40 inches. Blanton soils occupy positions that are similar to but slightly higher than Chipley soils, and they have a Bt horizon that is below 40 inches. Echaw soils have a Bh horizon, the top of which is at a depth of 30 to 50 inches. Lakeland soils are on higher ridges and are excessively drained. Osier soils are in depressions and drainageways and are poorly drained. Pickney soils are on the lowest elevations, have a thick black surface layer, and are very poorly drained.

Typical pedon of Chipley fine sand, 0 to 2 percent slopes, in a cultivated field, 2.5 miles northwest of Grays, 0.83 mile north of intersection of South Carolina Secondary Highway 16 with South Carolina Secondary Highway 87, 100 feet west of South Carolina Secondary Highway 87:

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) fine sand; weak fine granular structure; very friable; many fine and medium roots; medium acid; gradual smooth boundary.

C1—9 to 20 inches; very pale brown (10YR 7/3) fine sand; few fine distinct yellowish brown mottles; weak fine granular structure; very friable; common fine roots; strongly acid; gradual wavy boundary.

C2—20 to 27 inches; very pale brown (10YR 7/3) fine sand; common medium distinct yellowish brown (10YR 5/6) and a few medium distinct light gray (10YR 7/2) mottles; single grained; loose; few fine roots; very strongly acid; gradual wavy boundary.

C3—27 to 36 inches; brownish yellow (10YR 6/6) fine sand; common medium distinct strong brown (7.5YR 5/6) and a few fine distinct light gray mottles; single grained; loose; few fine roots; few soft dark brown nodules; very strongly acid; gradual wavy boundary.

C4—36 to 48 inches; brownish yellow (10YR 6/6) fine sand; common medium distinct strong brown (7.5YR 5/6) and light gray (10YR 7/2) mottles; single grained; loose; few fine roots; very strongly acid; gradual wavy boundary.

C5—48 to 60 inches; coarsely mottled light yellowish brown (10YR 6/4) and light gray (10YR 7/2) fine sand; single grained; loose; very strongly acid; gradual wavy boundary.

C6g—60 to 84 inches; light gray (10YR 7/2) fine sand; many medium distinct very pale brown (10YR 7/4) and few medium distinct yellowish brown (10YR 5/6) mottles; single grained; loose; very strongly acid.

Texture is sand or fine sand to depths of 80 inches or more. Reaction is very strongly acid to medium acid throughout the profile.

The A horizon is 5 to 15 inches thick. The A1 or Ap horizon is 3 to 12 inches thick. It is very dark gray, dark gray, gray, or dark grayish brown. The AC horizon, where present, is 2 to 5 inches thick and is pale brown or grayish brown.

The upper part of the C horizon is very pale brown, pale brown, light yellowish brown, yellowish brown, brownish yellow, or yellow and has few to many fine or medium mottles in shades of gray, yellow, and brown. The lower part of the C horizon, to a depth of about 84 inches, is commonly light gray but includes pale brown, very pale brown, and light yellowish brown and has few to many mottles in shade of gray, yellow, and brown, or it is variegated with these colors.

Chisolm series

The Chisolm series consists of deep, well drained or moderately well drained, moderately permeable soils that formed in sandy and loamy Coastal Plain sediment. These nearly level and gently sloping soils are on the higher ridges in the Lower Coastal Plain. The water table is commonly more than 5 feet below the surface but ranges between 4 and 5 feet during winter. Slopes are commonly about 1 percent but range up to 6 percent along drainageways.

Chisolm soils are geographically associated with the Bertie, Coosaw, Deloss, Eddings, and Williman soils. Bertie soils are on slightly lower elevations and have a Bt horizon within 20 inches of the surface. Coosaw soils are on the lower ridges and are somewhat poorly drained. Deloss soils are in depressional areas and drainageways, have a thick, dark colored surface layer, and are very poorly drained. Eddings soils are on high ridges, are well drained, and have a sandy A horizon more than 40 inches thick. Williman soils are in low areas and are poorly drained.

Typical pedon of Chisolm loamy fine sand, 0 to 6 percent slopes, forested, 7.75 miles south of Hardeeville, 3,000 feet southeast of junction of U.S. Highway 17 and U.S. Highway 17A, 100 feet northeast of U.S. Highway 17A:

A1—0 to 7 inches; grayish brown (10YR 5/2) loamy fine sand; weak fine granular structure; very friable; many fine roots; very strongly acid; clear smooth boundary.

A2—7 to 25 inches; very pale brown (10YR 7/3) loamy fine sand; weak fine granular structure; very friable; common fine roots; common fine lenses of uncoated sand grains; very strongly acid; clear wavy boundary.

B21t—25 to 36 inches; yellowish red (5YR 5/8) sandy clay loam; weak medium subangular blocky structure; friable; thin patchy clay films on faces of some peds; few fine flakes of mica; strongly acid; clear wavy boundary.

B22t—36 to 45 inches; yellowish red (5YR 5/8) sandy clay loam; few medium distinct red (10R 4/8) and light yellowish brown (10YR 6/4) mottles; moderate medium subangular blocky structure; friable; thin patchy clay films on faces of some peds; few fine flakes of mica; strongly acid; gradual wavy boundary.

B3—45 to 57 inches; strong brown (7.5YR 5/8) fine sandy loam; few medium distinct light brownish gray (10YR 6/2) mottles; weak medium subangular blocky structure; very friable; few fine flakes of mica; common uncoated quartz grains; strongly acid; clear wavy boundary.

C1—57 to 68 inches; reddish yellow (7.5YR 6/8) loamy fine sand; common medium faint strong brown (7.5YR 5/8) mottles; single grained; loose; common fine flakes of mica; common uncoated quartz grains; strongly acid; gradual wavy boundary.

C2—68 to 80 inches; pale yellow (5Y 7/3) loamy fine sand; few medium distinct yellow (10YR 7/8) mottles; single grained; loose; common fine flakes of mica; common uncoated quartz grains; strongly acid.

The thickness of the solum ranges from 50 to 80 inches. Reaction is very strongly acid to medium acid in the A and B horizons and very strongly acid or strongly acid in the C horizon.

The A horizon is 22 to 38 inches thick. The A1 or Ap horizon is 3 to 12 inches thick. It is very dark grayish brown, dark grayish brown, grayish brown, dark gray, gray, light gray, pale brown, or light yellowish brown. The A2 horizon is 14 to 32 inches thick. It is light yellowish brown, very pale brown, pale brown, yellowish brown, pale yellow, or white. The A horizon is loamy fine sand, loamy sand, or fine sand.

The B1 horizon, where present, is 4 to 7 inches thick. It is pale brown, yellowish brown, brownish yellow, or yellowish red fine sandy loam or sandy loam.

The B2t horizon is 6 to 37 inches thick. It is red, yellowish red, reddish brown, reddish yellow, or yellowish brown with few to many fine or medium yellow, brown, and red mottles. Some pedons have a few gray mottles in the lower part of the B2t horizon. It is sandy clay loam in the upper part and sandy clay or sandy clay loam in the lower part. Clay content of the upper 20 inches of the Bt horizon ranges from 22 to 35 percent.

The B3 horizon is 4 to 20 inches thick. It is red, reddish yellow, strong brown, yellowish brown, or brownish yellow with mottles in shades of gray, yellow, brown, or red, or it is variegated with these colors. A few pedons have gray or light gray B3 horizons with yellow, brown, and red mottles. The B3 horizon is commonly fine sandy loam but includes sandy loam and sandy clay loam.

The C horizon is various shades of red, brown, yellow, or gray with mottles of these colors, or it is variegated with these colors. It is loamy fine sand, loamy sand, fine sand, or sand.

Coosaw series

The Coosaw series consists of deep, somewhat poorly drained, moderately permeable soils that formed in sandy and loamy Coastal Plain sediment. These nearly level soils are on broad uplands. The water table is within 1 or 2 feet of the surface late in winter and early in spring. Slope is generally less than 1 percent but ranges up to 2 percent along drainageways.

Coosaw soils are geographically associated with the Bertie, Chisolm, Deloss, Eddings, Murad, Tomotley, Williman, and Yemassee soils. Bertie soils are generally on slightly higher elevations and are moderately well drained. Chisolm and Eddings soils are on the higher ridges and are well drained. Deloss soils are generally on the lowest elevations in depressions and drainageways, are very poorly drained, and have a thick, dark colored surface layer. Murad and Yemassee soils are on low uplands and are somewhat poorly drained. Tomotley and Williman soils occupy intermediate positions between the Coosaw and Deloss soils and are poorly drained.

Typical pedon of Coosaw loamy fine sand in a cultivated field, 9.5 miles northwest of Beaufort, 0.5 mile west of railroad crossing at Coosaw, 100 feet north of unimproved road:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) loamy fine sand; weak medium granular structure; very friable; many fine roots; slightly acid; abrupt smooth boundary.

A2—7 to 27 inches; light brownish gray (2.5Y 6/2) loamy fine sand; many medium faint light gray (2.5Y 7/2) mottles; weak medium granular structure; very friable; few fine roots; medium acid; clear wavy boundary.

B1—27 to 31 inches; brownish yellow (10YR 6/6) fine sandy loam; common medium distinct strong brown (7.5YR 5/6), common medium faint yellowish brown (10YR 5/4), and a few fine faint light yellowish brown and light brownish gray mottles; weak medium subangular blocky structure; very friable; sand grains coated and bridged with clay; few fine lenses of light gray fine sand; strongly acid; clear wavy boundary.

B21t—31 to 38 inches; yellowish brown (10YR 5/6) sandy clay loam; many medium distinct light gray (10YR 6/1), common medium prominent red (2.5YR 4/8), and common medium distinct strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; friable; thin patchy clay films on faces of some peds; very strongly acid; gradual wavy boundary.

B22tg—38 to 54 inches; gray (10YR 5/1) sandy clay loam; common medium prominent red (2.5YR 4/6), and common medium distinct strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; friable; thin patchy clay films on faces of some peds; very strongly acid; gradual wavy boundary.

B23tg—54 to 77 inches; light brownish gray (2.5Y 6/2) sandy clay loam; many coarse prominent reddish yellow (5YR 6/6), common medium distinct brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; friable; thin patchy clay films on faces of some peds; very strongly acid; clear smooth boundary.

B3g—77 to 85 inches; light brownish gray (2.5Y 6/2) fine sandy loam; common medium faint light gray (5Y 6/1) and few fine distinct yellowish brown and greenish gray mottles; weak medium subangular blocky structure; very friable; very strongly acid.

The thickness of the solum ranges from 50 to more than 80 inches. Except where limed, reaction is very strongly acid to medium acid in the A and B1 horizons and very strongly acid or strongly acid in the B2t and B3 horizons.

The A horizon is 21 to 35 inches thick. The A1 or Ap horizon is 5 to 12 inches thick. It is very dark gray, dark gray, dark grayish brown, grayish brown, or brown. Very dark gray horizons are less than 10 inches thick. The A2 horizon is 13 to 25 inches thick. It is light gray, light brownish gray, pale yellow, pale brown, or very pale brown. Few to many fine or medium gray, yellow, and brown mottles occur in the A2 horizon of some pedons. Texture of the A horizon is loamy fine sand or fine sand.

The B1 horizon, where present, is 4 to 7 inches thick. It is olive yellow, pale yellow, brownish yellow, reddish yellow, yellowish brown, brown, or strong brown. Few to many fine or medium gray, yellow, brown, and red mottles occur throughout this horizon. Texture is fine sandy loam or sandy loam.

The B2t horizon is 14 to 56 inches thick. The upper B2t horizon is yellowish brown, light yellowish brown, reddish yellow, or red. Few to many fine or medium gray, yellow, brown, and red mottles are throughout the horizon. The lower B2t horizon is gray, light gray, pale brown, or pale olive and has few to many gray, yellow, brown, and red mottles or it is variegated with these colors. Texture of the B2t horizon commonly is sandy clay loam but includes fine sandy loam. Some pedons have a B2t horizon that is sandy clay in the lower part.

The B3 horizon is 10 to 45 inches thick. It is mottled gray, yellow, brown, and red, or it is gray with yellow, brown, and red mottles. It is fine sandy loam or sandy clay loam.

Coxville series

The Coxville series consists of deep, poorly drained, moderately slowly permeable soils that formed in thick beds of clayey Coastal Plain sediment. These nearly level soils are in low, depressional areas and along drainageways. The water table is within 2.5 feet of the surface in winter and early in spring.

Coxville soils are geographically associated with the Goldsboro, Lynchburg, Paxville, and Rains soils. All of these associated soils have coarser textures in the upper

20 inches of the B horizon. Goldsboro soils are on the higher ridges and are moderately well drained. Lynchburg soils are on low ridges and are somewhat poorly drained. Paxville soils are on the lowest elevations, have a thick, dark colored surface layer, and are very poorly drained. Rains soils are poorly drained but have less clay in the B horizon than the Coxville soils.

Typical pedon of Coxville fine sandy loam, forested, 1.3 miles south of Pineland, 150 feet west of U.S. Highway 601:

Ap—0 to 8 inches; very dark gray (10YR 3/1) fine sandy loam; weak medium granular structure; friable; many fine and medium roots; very strongly acid; clear wavy boundary.

A2—8 to 14 inches; gray (10YR 5/1) fine sandy loam; few fine distinct brownish yellow mottles; weak medium granular structure; friable; common fine and medium roots; very strongly acid; clear wavy boundary.

B1g—14 to 18 inches; gray (10YR 5/1) sandy clay loam; common medium distinct brownish yellow (10YR 6/8) mottles; weak medium subangular blocky structure; friable; few fine roots; very strongly acid; clear wavy boundary.

B21tg—18 to 27 inches; gray (10YR 5/1) clay; common medium distinct yellowish brown (10YR 5/6) and few fine prominent red mottles; moderate medium subangular blocky structure; firm, sticky, plastic; thin clay films on faces of some peds; few fine roots; very strongly acid; gradual wavy boundary.

B22tg—27 to 50 inches; gray (10YR 5/1) clay loam; many medium prominent red (2.5YR 4/6), common medium distinct yellow (10YR 7/8), and few fine distinct yellowish brown mottles; weak medium subangular blocky structure; firm, sticky, plastic; thin clay films on faces of some peds; few fine roots; very strongly acid; gradual wavy boundary.

B23tg—50 to 65 inches; gray (10YR 5/1) clay loam; common medium prominent red (2.5YR 4/6) and common medium distinct brownish yellow (10YR 6/8) mottles; weak medium subangular blocky structure; firm, sticky, plastic; thin clay films on faces of some peds; pockets and lenses of sandy materials; very strongly acid; gradual wavy boundary.

B3g—65 to 84 inches; light gray (10YR 6/1) sandy clay loam; many coarse distinct brownish yellow (10YR 6/6) mottles; massive; friable; pockets and lenses of sandy materials; strongly acid.

The thickness of the solum ranges from 60 to about 80 inches. Reaction is very strongly acid or strongly acid throughout the profile except where limed.

The A horizon is 9 to 14 inches thick. The A1 or Ap horizon is 6 to 8 inches thick. It is black, very dark gray, dark gray, or gray. The A2 horizon is 3 to 6 inches thick. It is gray or light gray. Texture of the A horizon is fine sandy loam, sandy loam, or loam.

The B1g horizon, where present, is 4 to 10 inches thick. It is gray or light gray with common to many mottles in shades of gray, yellow, brown, and red. Texture is sandy clay loam or fine sandy loam.

The B2tg horizon is 45 to 70 inches thick. It is gray or light gray with common to many mottles in shades of gray, yellow, brown, and red. Texture is commonly sandy clay but includes clay loam and clay.

The B3g horizon is 11 to 24 inches thick. It is gray or light gray with common to many yellow, brown, and red mottles. Texture is commonly sandy clay loam but includes fine sandy loam and sandy clay.

Deloss series

The Deloss series consists of deep, very poorly drained, moderately permeable soils that formed in thick loamy sediment on the Lower Coastal Plain. These nearly level soils are in low depressional areas and along drainageways. Undrained areas are saturated with water in winter and early in spring.

Deloss soils are geographically associated with the Bertie, Cape Fear, Coosaw, Tomotley, and Yemassee soils. Bertie soils are on the higher ridges and are moderately well drained. Cape Fear soils have more clay in the Bt horizon than the Deloss soils, and they are very poorly drained. Tomotley soils have a lighter colored surface layer than the Deloss soils and are poorly drained. Yemassee soils are on low ridges and are somewhat poorly drained.

Typical pedon of Deloss fine sandy loam, forested, 2.76 miles northwest of Bluffton, 1.48 miles west of the junction of South Carolina Secondary Highway 474 with South Carolina Primary Highway 46, 1.75 miles north of South Carolina Primary Highway 46, 50 feet west of unimproved woods road:

A1—0 to 13 inches; black (10YR 2/1) fine sandy loam; moderate medium granular structure; very friable; many fine and medium roots; few large roots; few fine holes; common fine uncoated sand grains; very strongly acid; clear smooth boundary.

A2—13 to 18 inches; grayish brown (10YR 5/2) fine sandy loam; common medium distinct very dark grayish brown (10YR 3/2) and pale brown (10YR 6/3) mottles; weak medium subangular blocky structure; very friable; common fine and medium roots; common fine pores; common fine stripped sand grains; very strongly acid; clear wavy boundary.

B21tg—18 to 23 inches; dark gray (10YR 4/1) sandy clay loam; common fine distinct yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), and dark brown (7.5YR 4/4) mottles; weak medium subangular blocky structure; friable; few faint clay films in old root channels; common fine and medium roots; few fine holes and pores; streaks of pale brown (10YR 6/3) loamy fine sand in old root channels and on faces of some peds; very strongly acid; clear wavy boundary.

B22tg—23 to 44 inches; dark gray (10YR 4/1) sandy clay loam; common fine distinct yellowish brown (10YR 5/6), yellowish red (5YR 5/6), and dark reddish brown (2.5YR 3/4) mottles; weak medium subangular blocky structure; friable; faint clay films in old root channels and on faces of some peds; few fine and medium roots; few fine holes; few fine streaks of pale brown (10YR 6/3) loamy fine sand in old root channels and on faces of some peds; few fine uncoated sand grains; very strongly acid; gradual wavy boundary.

B23tg—44 to 51 inches; gray (10YR 5/1) sandy clay loam; many medium prominent reddish brown (5YR 4/4) and common medium distinct light gray (5Y 7/2) mottles; weak medium subangular blocky structure; friable; few faint clay films on faces of some peds; few fine roots; few fine streaks of pale brown (10YR 6/3) loamy fine sand in old root channels and on faces of some peds; few fine uncoated sand grains; very strongly acid; clear wavy boundary.

B3g—51 to 56 inches; grayish brown (10YR 5/2) sandy clay loam with pockets of fine sandy loam; common medium prominent reddish brown (5YR 4/4), common medium distinct light olive gray (5Y 6/2), and dark yellowish brown (10YR 4/6) mottles; massive; friable; few fine roots; few fine lenses of pale brown (10YR 6/3) loamy fine sand; few fine uncoated sand grains; few fine flakes of mica; very strongly acid; clear wavy boundary.

C1g—56 to 67 inches; grayish brown (10YR 5/2) fine sandy loam; common medium distinct light brownish gray (2.5Y 6/2) and common medium faint dark grayish brown (10YR 4/2) mottles; massive; very friable; few fine roots; common fine uncoated sand grains; few fine flakes of mica; very strongly acid, clear wavy boundary.

C2g—67 to 85 inches; light gray (5Y 7/2) loamy fine sand; common medium prominent dark grayish brown (10YR 4/2) and common medium distinct grayish brown (2.5Y 5/2) mottles; massive; very friable; few fine roots; many uncoated sand grains; common fine black minerals; few fine flakes of mica; medium acid.

The thickness of the solum ranges from 45 to more than 60 inches. Reaction is very strongly acid to slightly acid in the A horizon. The B

horizon is very strongly acid or strongly acid. The C horizon ranges from very strongly acid to medium acid. Few to many fine flakes of mica and fine black minerals are in the lower part of the B and in the C horizon of most pedons.

The A horizon is 13 to 25 inches thick. The A1 or Ap horizon is 9 to 16 inches thick. It is black or very dark gray. The A12 horizon, where present, is 3 to 9 inches thick. It is dark gray, dark grayish brown, grayish brown, or light brownish gray. Texture of the A horizon is fine sandy loam or loamy fine sand.

The B1g horizon, where present, is 4 to 12 inches thick. It is black, very dark gray, very dark grayish brown, dark gray, dark grayish brown, gray, grayish brown, or light brownish gray. Texture is sandy loam, loam, or sandy clay loam.

The B2tg horizon is 9 to 39 inches thick. It is black, very dark gray, very dark grayish brown, dark gray, dark grayish brown, gray, grayish brown, light brownish gray, or light olive gray. Few to many mottles in shades of gray, brown, olive, yellow, and red are in most pedons. The B2tg horizon is dominantly sandy clay loam but includes clay loam and fine sandy loam. Some pedons have thin horizons of sandy clay. The upper 20 inches of the B horizon contains from 18 to 35 percent clay.

The B3g horizon, where present, is 5 to 24 inches thick. It is dark gray, gray, grayish brown, olive gray, light olive gray, light gray, or light brownish gray and has few to many mottles in shades of gray, brown, yellow, or red. Texture is dominantly fine sandy loam but includes sandy clay loam and sandy loam.

The Cg horizon is dark gray, gray, light gray, dark grayish brown, grayish brown, light brownish gray, light olive gray, dark greenish gray, or greenish gray. In most pedons, the C horizon has mottles in shades of gray, brown, yellow, or red, and in some pedons it is variegated with these colors. Texture is commonly loamy fine sand but includes sandy clay loam, fine sandy loam, loamy sand, and fine sand.

Echaw series

The Echaw series consists of moderately well drained, moderately rapidly permeable soils that formed in thick sandy Coastal Plain sediment. These nearly level soils are on broad uplands. They have a seasonal water table at a depth of 30 to 60 inches for 2 to 6 months during most years. Slopes are generally less than 1 percent but range up to 2 percent along drainageways.

Echaw soils are geographically associated with the Albany, Chipley, Lakeland, Lynn Haven, Pelham, and Pickney soils. Albany soils occupy somewhat similar to slightly lower positions, are somewhat poorly drained, and have a Bt horizon at a depth between 40 and 60 inches. Chipley soils occupy positions similar to the Echaw soils, are moderately well drained, but do not have a Bh horizon. Lakeland soils are on the higher ridges, are excessively drained, but do not have a Bh horizon. Lynn Haven soils are on lower elevations, are poorly drained, and have a Bh horizon at a depth less than 30 inches below the surface. Pelham soils are on the lower elevations, are poorly drained, and have a Bt horizon beginning at a depth between 20 and 40 inches. Pickney soils are on the lowest elevations in depressions and drainageways, are very poorly drained, and have a thick, dark colored surface layer.

Typical pedon of Echaw loamy fine sand in a cultivated field is 4.2 miles northwest of Ridgeland, 1,000 feet south of the intersection of South Carolina Primary Highway 652 and U.S. Highway 278, 100 feet east of U.S. Highway 278:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) loamy fine sand; weak fine granular structure; very friable; many fine and medium roots; slightly acid; abrupt smooth boundary.

A21—8 to 16 inches; light yellowish brown (10YR 6/4) loamy fine sand; common medium distinct light olive brown (2.5Y 5/4) mottles; weak fine granular structure; very friable; common fine roots; slightly acid; gradual smooth boundary.

A22—16 to 28 inches; light yellowish brown (10YR 6/4) loamy fine sand; many coarse distinct strong brown (7.5YR 5/8) and common medium distinct very pale brown (10YR 7/3) mottles; weak fine granular structure; very friable; few fine roots; strongly acid; clear smooth boundary.

A23—28 to 34 inches; light brownish gray (10YR 6/2) loamy fine sand; common coarse distinct yellow (10YR 7/6) and common medium distinct reddish yellow (7.5YR 6/8) mottles; weak fine subangular blocky structure; very friable; few fine roots; strongly acid; clear smooth boundary.

B21h—34 to 40 inches; dark brown (7.5YR 3/2) loamy sand; common medium faint dark grayish brown (10YR 4/2) mottles; weak fine subangular blocky structure parting to weak fine granular; very friable; brittle in darker portion; most sand grains coated; strongly acid; gradual wavy boundary.

B22h—40 to 64 inches; dark reddish brown (5YR 2/2) loamy sand; many coarse distinct black (10YR 2/1) mottles; weak fine subangular blocky structure parting to weak fine granular; very friable; brittle; most sand grains coated; strongly acid; diffuse wavy boundary.

B23h—64 to 80 inches; dark reddish brown (5YR 2/2) sand, common medium distinct black (10YR 2/1) and very dark grayish brown (10YR 3/2) mottles; weak fine subangular blocky structure; very friable; brittle in darker portions; common uncoated sand grains; medium acid.

The thickness of the solum ranges from 45 to more than 60 inches. Reaction is very strongly acid to medium acid throughout the profile, except where limed.

The A horizon is 30 to 50 inches thick. The A1 or Ap horizon is 4 to 8 inches thick. It is very dark gray, very dark grayish brown, dark gray, or dark grayish brown loamy fine sand, loamy sand, or fine sand. The A2 horizon is 25 to 45 inches thick and is loamy fine sand, loamy sand, or fine sand. The upper part of the A2 horizon is yellowish brown, light yellowish brown, pale brown, or pale yellow. The lower part of the A2 horizon has the same colors as the upper part of the A2 horizon and has few to many gray mottles, or it is gray, light gray, or light brownish gray and has few to many mottles.

The Bh horizon is 10 to more than 46 inches thick. It is black, dark reddish brown, dark brown, or very dark brown. Texture is loamy fine sand, loamy sand, fine sand, or sand.

Eddings series

The Eddings series consists of deep, well drained, moderately permeable soils that formed in sandy and loamy Coastal Plain sediment. These nearly level and gently sloping soils are on ridges in the Lower Coastal Plain. The seasonal high water table during mid-winter is commonly below 3.5 feet. Slopes are generally less than 2 percent but range up to 6 percent along drainageways.

Eddings soils are geographically associated with the Chisolm, Coosaw, Murad, Polawana, and Seabrook soils. Chisolm soils have an A horizon that is 20 to 40 inches thick over the Bt horizon. Coosaw soils are on lower ridges, are somewhat poorly drained, and have an A horizon that is 20 to 40 inches thick. Murad soils are on nearly level, low ridges and are somewhat poorly drained. Polawana soils are in low, depressional areas and in drainageways, are very poorly drained, and are sandy throughout. Seabrook soils are on the intermediate ridges, are moderately well drained, and are sandy throughout.

Typical pedon of Eddings fine sand, 0 to 6 percent slopes, 1.75 miles southwest of Sheldon, 1.75 miles south of junction of South Carolina Secondary Highway 15 and U.S. Highway 21, 800 feet west of South Carolina Secondary Highway 19:

Ap—0 to 14 inches; dark grayish brown (10YR 4/2) fine sand, weak fine granular structure; very friable; common fine roots; neutral; abrupt smooth boundary.

A21—14 to 24 inches; yellowish brown (10YR 5/4) fine sand; weak fine granular structure; very friable; few fine roots; few fine black minerals; few fine flakes of mica; slightly acid; gradual smooth boundary.

A22—24 to 44 inches; very pale brown (10YR 7/3) fine sand; weak fine subangular structure; very friable; few fine black minerals; few fine flakes of mica; slightly acid; gradual smooth boundary.

B1—44 to 57 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine black minerals; few fine flakes of mica; medium acid; gradual smooth boundary.

B2t—57 to 66 inches; brownish yellow (10YR 6/8) sandy clay loam; common medium distinct light gray (10YR 6/1) and a few medium distinct yellowish red (5YR 5/8) mottles; weak medium subangular blocky structure; friable; patchy faint clay films in pores and on faces of some peds; few fine black minerals; few fine flakes of mica; strongly acid; gradual smooth boundary.

B3—66 to 84 inches; mottled brownish yellow (10YR 6/8), yellowish red (5YR 5/8), and light gray (10YR 6/1) fine sandy loam with pockets of sandy clay loam; weak medium subangular blocky structure; friable; few fine black minerals; few fine flakes of mica; very strongly acid.

The thickness of the solum ranges from 60 to more than 85 inches. Reaction is very strongly acid to slightly acid in about the upper 60 inches and is very strongly acid or strongly acid below about 60 inches.

The A horizon is 41 to 48 inches thick. The A1 or Ap horizon is 6 to 14 inches thick. It is very dark grayish brown, dark grayish brown, dark brown, brown, grayish brown, or yellowish brown. The A2 horizon is 30 to 39 inches thick. It is very pale brown, pale brown, pale yellow, yellowish brown, or yellowish red. Mottles in shades of brown and yellow are in the A2 horizon in some pedons. Texture of the A horizon is fine sand or loamy fine sand.

The B1 horizon, where present, is 5 to 15 inches thick. It is yellowish brown, brownish yellow, or yellow fine sandy loam or sandy loam. Mottles in shades of yellow, brown, and red are in the A2 horizon in some pedons.

The B2t horizon is 9 to 32 inches thick. It is strong brown, yellowish brown, brownish yellow, yellow, or reddish yellow in the upper part. The lower part of the B2t horizon has the same colors as the upper part, but it also is very pale brown and light gray. Mottles in shades of gray, yellow, brown, and red are few to common. The B2t horizon is free of mottles with chroma of 2 or less in at least the upper 5 inches. Texture commonly is sandy clay loam but includes fine sandy loam, and in some pedons the lower part is sandy clay. The clay content of the upper 20 inches of the argillic horizon ranges from 18 to 35 percent.

The B3 horizon is 8 to 19 inches thick. It is yellowish brown, brownish yellow, yellow, very pale brown, or light gray and has common to many mottles in shades of gray, yellow, brown, and red, or it is variegated with these colors. Texture is sandy loam, fine sandy loam, sandy clay loam, or sandy clay.

Eulonia series

The Eulonia series consists of deep, moderately well drained, moderately slowly permeable soils that formed in clayey Coastal Plain sediment. These nearly level soils are on ridges of the Lower Coastal Plain. The water table is within 1.5 feet to 3.5 feet of the surface during winter and early in spring. Slopes are less than 2 percent.

Eulonia soils are geographically associated with Bladen, Cape Fear, Nemours, and Wahee soils. Bladen soils are in low areas and are poorly drained. Cape Fear soils are in depressions and poorly defined drainageways, have a thick, dark colored surface layer, and are very poorly drained. Nemours soils are on the higher ridges, commonly have more than 45 percent clay in the upper 20 inches of the B horizon, and are moderately well drained. Wahee soils are on the low ridges and are somewhat poorly drained.

Typical pedon of Eulonia fine sandy loam, 3.25 miles southeast of Hardeeville on South Carolina Primary Highway 46, 100 feet southwest of South Carolina Primary Highway 46:

A1—0 to 5 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; weak fine granular structure; very friable; common coarse and medium roots, many fine roots; few fine holes and pores; strongly acid; clear smooth boundary.

A2—5 to 13 inches; light yellowish brown (10YR 6/4) fine sandy loam; weak medium granular structure; very friable; common medium and fine roots; few fine holes and pores; strongly acid; clear wavy boundary.

B21t—13 to 19 inches; red (2.5YR 4/6) sandy clay; few fine distinct light yellowish brown mottles; moderate medium subangular blocky structure; friable; patchy clay films on faces of peds; common fine roots; common fine and medium holes; common fine pores; few fine flakes of mica; strongly acid; clear wavy boundary.

B22t—19 to 29 inches; red (2.5YR 4/6) clay; common medium distinct light yellowish brown (2.5Y 6/4) and light brownish gray (2.5Y 6/2) mottles; strong medium subangular blocky structure; firm; distinct clay films on faces of peds; few fine roots; common fine flakes of mica; strongly acid; clear wavy boundary.

B23tg—29 to 48 inches; light gray (5Y 7/1) sandy clay; many medium prominent red (2.5YR 4/6) and common medium distinct strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; firm; patchy clay films on faces of some peds; few fine roots; few fine holes and pores; common fine flakes of mica; strongly acid; clear wavy boundary.

B3g—48 to 58 inches; light gray (5Y 7/1) sandy clay loam; many medium prominent red (2.5YR 5/6) and a few medium distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; common fine flakes of mica; strongly acid; gradual wavy boundary.

C—58 to 84 inches; yellowish red (5YR 5/6) sandy loam; many medium prominent light gray (5Y 7/1) and yellowish brown (10YR 5/6) mottles; massive; very friable; many fine flakes of mica; strongly acid.

The thickness of the solum ranges from 50 to 80 inches. Reaction is very strongly acid to medium acid throughout the profile, except where the surface layer has been limed.

The A horizon is 8 to 19 inches thick. The A1 or Ap horizon is 4 to 12 inches thick. It is very dark gray, dark gray, dark grayish brown, gray, or grayish brown. The A2 horizon is 3 to 13 inches thick. It is light yellowish brown, light gray, light brownish gray, pale brown, very pale brown, pale yellow, or pale olive. The A horizon is fine sandy loam, sandy loam, loamy fine sand, or loamy sand.

The B1 horizon, where present, is 3 to 9 inches thick. It is olive yellow, brownish yellow, yellowish brown, light yellowish brown, strong brown, yellowish red, or red and has few to many mottles in shades of yellow, brown, and red. Texture is fine sandy loam or sandy clay loam.

The B2t horizon is 17 to 40 inches thick. It is red, yellowish red, brownish yellow, yellowish brown, strong brown, or light yellowish brown in the upper part and has common to many mottles in shades of gray, yellow, brown, and red. Few to many mottles that have a chroma of 2 or less are within a depth of 10 inches from the upper boundary of the argillic horizon. The lower part of the B2t horizon is mottled with various shades of gray, red, and brown, or it is dominantly gray and has

brown and red mottles. The B2t horizon is sandy clay or clay in the upper part and sandy clay or sandy clay loam in the lower part. Clay content of the upper 20 inches of the Bt horizon averages 35 to 45 percent.

The B3g horizon is 7 to 38 inches thick. It is gray or light gray and has few to many mottles in shades of yellow, brown, and red. Texture is sandy clay loam or sandy loam.

The C horizon is yellowish red or strong brown with many gray mottles, gray with many red and brown mottles, or variegated with red, brown, and gray. Texture is commonly sandy loam but includes sandy clay loam, fine sandy loam, and loamy sand.

Fripp series

The Fripp series consists of excessively drained, rapidly permeable soils that formed in sandy marine sediments and that have been reworked by wind and wave action. These undulating to rolling soils are on dunes commonly adjoining beaches and waterways along the coast. Flooding of the lower areas, because of very high tides caused by coastal storms, is rare and lasts for only very brief periods. Slopes are commonly 5 to 15 percent but range from 2 to 30 percent.

Fripp soils are geographically associated with the Baratari, Polawana, Rosedhu, Seabrook, and Seewee soils. Baratari soils are in low areas, are poorly drained, and have a Bh horizon. Polawana soils are in depressional areas and drainageways, are very poorly drained, and have a thick, dark colored surface layer. Rosedhu soils are in depressional areas, are very poorly drained, and have a Bh horizon. Seabrook soils are on broad ridges, are moderately well drained, and commonly have concretions. Seewee soils are on the intermediate ridges, are somewhat poorly drained, and have a Bh horizon.

Typical pedon of Fripp fine sand from an area of Fripp-Baratari complex, 15 miles east of Beaufort on Hunting Island, 0.34 mile south of U.S. Highway 21 bridge over Johnson Creek, 100 feet east of U.S. Highway 21:

A1—0 to 5 inches; grayish brown (10YR 5/2) fine sand; common medium faint light gray (2.5Y 7/2) mottles; single grained; loose; common fine and medium roots; about 5 percent of the grains are black and dark brown; medium acid; clear wavy boundary.

C1—5 to 21 inches; pale yellow (2.5Y 7/4) fine sand; many medium distinct light brownish gray (10YR 6/2) mottles; single grained; loose; common fine and few medium roots; about 5 percent of the grains are black and dark brown; medium acid; gradual wavy boundary.

C2—21 to 52 inches; very pale brown (10YR 7/3) fine sand; single grained; loose; few fine and medium roots; about 5 percent of the grains are black and dark brown; slightly acid; gradual wavy boundary.

C3—52 to 90 inches; white (2.5Y 8/2) fine sand, single grained; loose; few irregular horizontal light brownish gray (10YR 6/2) streaks about 1/8 inch thick; about 5 percent of the grains are black and dark brown; slightly acid.

Content of silt and clay to a depth of more than 80 inches is less than 5 percent. Reaction is medium acid to mildly alkaline throughout. Few to many fine dark minerals and a few shell fragments are in some pedons.

The A horizon is 4 to 8 inches thick. It is light gray, light brownish gray, grayish brown, or dark grayish brown. Texture is fine sand or sand.

The C horizon to a depth of more than 80 inches is fine sand or sand. The upper part is very pale brown, pale yellow, or brown. The lower part is commonly light gray or white but includes yellow, very pale brown, and pale yellow.

Goldsboro series

The Goldsboro series consists of deep, moderately well drained, moderately permeable soils that formed in thick, loamy Coastal Plain sediment. These nearly level soils are on uplands. The water table is within 2.0 to 3.0 feet of the surface during winter. Slopes are generally less than 1 percent but range up to 2 percent along drainageways.

Goldsboro soils are geographically associated with the Lynchburg, Norfolk, Ocilla, Paxville, and Rains soils. Lynchburg soils are on the lower ridges and are somewhat poorly drained. Norfolk soils are on the higher ridges and are well drained. Ocilla soils are on intermediate ridges, have an A horizon that is 20 to 40 inches thick, and are somewhat poorly drained. Paxville soils are in depressional areas and drainageways, have a thick, dark colored surface layer, and are very poorly drained. Rains soils are in low areas and are poorly drained.

Typical pedon of Goldsboro loamy fine sand, 0 to 2 percent slopes, 0.83 mile northwest of Robertsville on U.S. Highway 321; 800 feet north of U.S. Highway 321:

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) loamy fine sand; weak medium granular structure; very friable; many fine and medium roots; medium acid; clear smooth boundary.

A2—6 to 13 inches; pale brown (10YR 6/3) loamy fine sand; weak medium granular structure; very friable; common fine and medium roots; vertical streaks of dark grayish brown loamy sand in old root channels; medium acid; clear smooth boundary.

B1—13 to 16 inches; brownish yellow (10YR 6/6) fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; many fine pores; strongly acid; clear smooth boundary.

B21t—16 to 25 inches; yellowish brown (10YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; patchy clay films on faces of peds; common fine roots; strongly acid; gradual wavy boundary.

B22t—25 to 38 inches; pale brown (10YR 6/3) sandy clay loam; common medium distinct light gray (10YR 6/1) and yellowish brown (10YR 5/6) and a few medium distinct yellowish red (5YR 5/6) mottles; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; patchy clay films on faces of peds; few fine roots; strongly acid; gradual wavy boundary.

B23tg—38 to 65 inches; light gray (10YR 6/1) sandy clay loam; common medium prominent red (2.5YR 4/6) and common medium distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; patchy clay films on faces of peds; strongly acid; gradual wavy boundary.

B3g—65 to 80 inches; light gray (10YR 6/1) sandy loam; common medium prominent red (2.5YR 4/6) and common medium distinct brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; streaks and pockets of sandy clay loam; strongly acid.

The thickness of the solum ranges from 60 to more than 80 inches. Reaction is very strongly acid or strongly acid throughout except where the surface layer has been limed.

The A horizon is 6 to 19 inches thick. The A1 or Ap horizon is 4 to 9 inches thick. It is gray, dark gray, grayish brown, or dark grayish brown. The A2 horizon, where present, is 4 to 12 inches thick. It is light brownish gray, very pale brown, pale brown, or light yellowish brown. Texture of the A horizon is loamy fine sand or loamy sand.

The B1 horizon, where present, is 3 to 8 inches thick. It is brownish yellow or yellowish brown fine sandy loam or sandy loam.

The B2t horizon is 40 to more than 60 inches thick. The upper part of the B2t horizon is yellowish brown, light yellowish brown, pale brown, or brownish yellow and has few to many mottles in shades of yellow, brown, and red. Mottles in shades of gray are within 30 inches of the surface. The lower part of the B2t horizon has dominantly gray colors with common to many mottles in shades of yellow, brown, and red, or it is variegated with shades of gray, yellow, brown, and red. The B2t horizon is commonly sandy clay loam but includes fine sandy loam and sandy loam.

The B3g horizon is 10 to 30 inches thick. It has dominantly gray colors with common to many mottles in shades of yellow, brown, and red. Texture is sandy loam, sandy clay loam, or sandy clay.

Handsboro series

The Handsboro series consists of very poorly drained, moderately permeable, organic soils with sulfidic materials that formed in herbaceous and woody plant remains and strata of loamy or clayey materials. These nearly level soils are on broad tidal marshes. They are flooded twice daily or frequently by seawater.

Handsboro soils are geographically associated with the Bohicket and Capers soils. Bohicket soils are commonly on slightly lower elevations. They are dominantly mineral soils, and they have very low bearing strength. Capers soils are commonly on slightly higher elevations. They are mineral soils, and they have moderate bearing strength.

Typical pedon of Handsboro mucky silty clay loam in an area of Handsboro soils, 12.5 miles southeast of Hardeeville, 3.5 miles east of U.S. Highway 17A, 300 feet north of sediment retention dike, 3,700 feet north of the Savannah River:

A1—0 to 4 inches; dark gray (10YR 4/1) mucky silty clay loam; massive; sticky, plastic; many fine and medium roots; neutral; clear smooth boundary.

Oa1—4 to 27 inches; very dark gray (10YR 3/1) broken face, sapric material, very dark grayish brown (10YR 3/2) pressed or rubbed; about 30 percent fiber; 3 percent rubbed; massive; nonsticky; many fine roots; about 30 percent mineral content; neutral; gradual smooth boundary.

Oa2—27 to 42 inches; black (10YR 2/1) broken face, pressed or rubbed sapric material; about 30 percent fiber, 1 percent rubbed; massive; nonsticky; common fine roots; about 25 percent mineral content; medium acid; gradual smooth boundary.

Oa3—42 to 70 inches; reddish black (10R 2/1) broken faces, pressed or rubbed sapric material; about 28 percent fiber, about 1 percent rubbed; massive; nonsticky; few fine roots; about 25 percent mineral content; medium acid; gradual smooth boundary.

Oa4—70 to 77 inches; black (10YR 2/1) broken face, pressed or rubbed sapric material; about 32 percent fiber, about 1 percent rubbed; massive; nonsticky; few fine roots; about 35 percent mineral content; neutral; clear smooth boundary.

Oa5—77 to 84 inches; black (10YR 2/1) broken face, pressed or rubbed sapric material; about 32 percent fiber, about 2 percent rubbed; massive; nonsticky; few fine roots; about 40 percent mineral content; neutral.

Sulfur content ranges from 0.75 to about 2 percent in the subhorizons within 12 to 40 inches of the surface. Thickness of the organic layers ranges from 3 to more than 10 feet. The organic layers are generally sapric material, but layers of hemic and fibric materials are in some pedons and are dominant in a few pedons. Most pedons have a mineral layer on the surface and thin mineral layers are common in organic material. The combined thickness of the mineral layers is less than 16 inches, and this is within 32 inches of the surface. Soil reaction is medium acid to moderately alkaline throughout under natural saturated conditions. After air drying for 30 days or more these layers become extremely acid.

The A horizon, where present, is 4 to 8 inches thick. It is dark gray, very dark gray, or black. Texture is mucky silty clay loam, mucky silty clay, mucky silt loam, or mucky clay.

The combined layers of organic materials are 3 to more than 10 feet thick. They are dark gray, very dark gray, dark brown, very dark grayish brown, very dark brown, reddish black, and black. The rubbed fiber content ranges from 1 to 16 percent. The mineral content ranges from 25 to 40 percent.

The IIC horizon which lies between the tiers of organic materials in some pedons and underlies the organic layers is dark gray, very dark grayish brown, very dark gray, or black. Texture is mucky clay loam, silty clay, or clay.

Hobonny series

The Hobonny series consists of very poorly drained, moderately permeable, organic soils that formed in herbaceous and woody plant remains. They have been mixed with a small amount of mineral soil over a variety of marine and fluvial sediments. These nearly level soils are in broad areas at elevations that are generally less than 5 feet above mean sea level. They normally occur within the flood plain of freshwater streams and are bordered on the seaward side by soils that are flooded by saline water. The water table ranges from 1 foot above the surface to the surface unless protected.

Hobonny soils are geographically associated with the Bohicket, Capers, Handsboro, and Levy soils. The Bohicket and Capers soils are mineral soils and are flooded twice daily or periodically by seawater. Handsboro soils are organic soils that are flooded twice daily or periodically by seawater. Levy soils are mineral soils that are saturated with water.

Typical pedon of Hobonny muck from an area of Hobonny soils, 2.2 miles northeast of U.S. Highway 17A, 1,750 feet west of U.S. Highway 17A, 200 feet east of diversion canal:

A1—0 to 2 inches; gray (10YR 5/1) silty clay loam; coarse medium granular structure; slightly sticky; many fine and medium roots; strongly acid; abrupt smooth boundary.

Oa1—2 to 10 inches; dark reddish brown (5YR 2/2) sapric material; black (5YR 2/1) pressed and rubbed; about 40 percent fiber, about 10 percent rubbed; massive; flows easily between fingers when squeezed and leaves small residue in hand; common fine roots; few coarse woody fragments; about 20 percent mineral content; very strongly acid; clear smooth boundary.

Oa2—10 to 32 inches; dark reddish brown (5YR 3/2) sapric material; very dark gray (5YR 3/1) pressed and rubbed; about 30 percent fiber, about 5 percent rubbed; massive; flows easily between fingers when squeezed and leaves small residue in hand; common fine roots; dominantly herbaceous fiber; many coarse woody fragments; about 15 percent mineral content; very strongly acid; clear smooth boundary.

Oa3—32 to 58 inches; dark reddish brown (5YR 3/2) sapric material; dark reddish brown (5YR 2/2) pressed and rubbed; about 20 percent fiber, about 5 percent rubbed; massive; flows easily between fingers when squeezed and leaves small residue in hand; few fine roots; dominantly herbaceous fiber; many coarse woody fragments; about 10 percent mineral content; extremely acid; clear smooth boundary.

Oa4—58 to 90 inches; dark reddish brown (5YR 2/2) sapric material; same color pressed and rubbed; about 5 percent fiber, 1 percent

rubbed; massive; flows easily between fingers when squeezed and leaves small residue in hand; dominantly herbaceous fiber; common coarse woody fragments; about 10 percent mineral content; extremely acid.

Thickness of the organic material ranges from 51 to more than 90 inches. Reaction of the organic layers is extremely acid to strongly acid, but it is very strongly acid or strongly acid in at least some part of the organic material in the control section. The underlying mineral layers, when encountered, range from very strongly acid to medium acid. Salinity is none or slight in more than half of the subsurface and bottom tiers. Most pedons have a thin mineral layer overlying the organic material.

The A1 horizon, where present, is 1 to 7 inches thick. It is black, very dark gray, dark gray, or gray. Texture is silty clay, silty clay loam, silt loam, mucky silt loam, or loam.

The organic material is dark reddish brown, very dark brown, very dark grayish brown, brown, dark grayish brown, grayish brown, or gray. The content of fibers ranges from 13 to 40 percent in an undisturbed state and from 2 to 10 percent after rubbing. Logs, dominantly cypress, and large fragments of wood, which are in varying stages of decomposition, commonly occur in the lower part of the organic material. The organic layers contain between 5 and 35 percent mineral matter.

The organic layers are underlain by mineral soils that range in texture from sands to clays.

Lakeland series

The Lakeland series consists of excessively drained, very rapidly permeable soils that formed in thick sandy Coastal Plain sediment. These nearly level and gently sloping soils are in broad upland areas. Slopes are generally less than 2 percent but range up to 6 percent along drainageways.

Lakeland soils are geographically associated with the Albany, Blanton, Bonneau, Chipley, and Pickney soils. Albany soils are on the intermediate ridges, are somewhat poorly drained, and have an A horizon that is 40 to 60 inches thick over the Bt horizon. Blanton soils are on the higher ridges, are moderately well drained, and have an A horizon that is 40 to 60 inches thick over the Bt horizon. Bonneau soils are on the uplands, are moderately well drained, and have an A horizon that is 20 to 40 inches thick over the Bt horizon. Chipley soils are on the intermediate ridges, are moderately well drained, and are sandy throughout. Pickney soils are in depressional areas and drainageways, are very poorly drained, and are sandy throughout.

Typical pedon of Lakeland fine sand, 0 to 6 percent slopes, one mile east of Gillisonville, 0.92 mile east of South Carolina Primary Highway 128 at first unimproved road north of Gillisonville, 50 feet south of unimproved road:

Ap—0 to 8 inches; dark gray (10YR 4/1) fine sand; weak fine granular structure; very friable; many fine and common medium roots; common uncoated sand grains; strongly acid; clear smooth boundary.

C1—8 to 45 inches; brownish yellow (10YR 6/6) fine sand; few fine faint pale brown mottles; single grained; loose; common fine and medium roots; common uncoated sand grains; strongly acid; gradual wavy boundary.

C2—45 to 65 inches; yellow (10YR 7/6) fine sand; few fine faint brownish yellow mottles; single grained; loose; common uncoated sand grains; strongly acid; gradual wavy boundary.

C3—65 to 85 inches; very pale brown (10YR 7/4) fine sand; few fine faint brownish yellow and yellow mottles; single grained; loose; common white (10YR 8/1) splotches of uncoated fine sand; strongly acid.

The thickness of the sand is more than 80 inches. Reaction is very strongly acid to medium acid throughout.

The A horizon is 4 to 10 inches thick. It is dark gray, dark grayish brown, gray, or grayish brown. Texture is fine sand or sand.

The C horizon to a depth of about 80 inches is yellowish brown, brownish yellow, yellow, light yellowish brown, pale brown, or very pale brown. Texture is fine sand or sand. Mottles in shades of yellow and brown are few to common. Below a depth of about 80 inches some pedons are dominantly gray or white. Small lenses or pockets of light gray or white uncoated sand grains occur in some pedons below a depth of about 40 inches.

Levy series

The Levy series consists of very poorly drained, slowly permeable soils that formed in fine alluvial sediment on the Lower Coastal Plain. These nearly level soils are in low, somewhat ponded, backswamp areas and marshes that are frequently adjacent and inland to tidal marshes. They are generally flooded with 2 to 10 inches of water, but several months each year they are flooded with about 12 to 24 inches of water. The surface layer is never above the capillary fringe.

Levy soils are geographically associated with the Argent, Bohicket, Capers, Chastain, Handsboro, Hobonny, and Tawcaw soils. Argent and Chastain soils are on higher elevations, are poorly drained and have an N-value less than 0.7. Bohicket and Capers soils are flooded by seawater. Handsboro soils are organic soils and are flooded by seawater. Hobonny soils are organic soils and are flooded by freshwater. Tawcaw soils are on higher elevations, are somewhat poorly drained, and have an N-value less than 0.7.

Typical pedon of Levy clay from an area of Levy soils, 3.4 miles southwest of Hardeeville, 1.56 miles east of the Savannah River, 1,900 feet west of U.S. Interstate Highway I-95 crossing of the Seaboard Coast Line Railroad, 200 feet north of I-95:

O1—2 to 0 inches; dark gray (10YR 4/1) organic matter consisting of leaves, bark, and twigs coated with dark gray (10YR 4/1) silty clay; common coarse wood fragments; very strongly acid; abrupt smooth boundary.

A1g—0 to 5 inches; dark gray (10YR 4/1) clay; massive; sticky; flows easily between fingers when squeezed, leaving a residue of live roots and fibric materials; about 30 percent by volume live roots; about 10 percent by volume organic matter; common coarse fragments of wood; extremely acid; clear smooth boundary.

C1g—5 to 42 inches; light brownish gray (10YR 6/2) clay; massive; sticky; flows easily between fingers when squeezed, leaving a small residue that is dominantly live roots and fibric materials; about 20 percent by volume live roots; about 10 percent by volume organic matter; common coarse fragments of wood; few fine flakes of mica; very strongly acid; clear smooth boundary.

C2g—42 to 60 inches; dark gray (10YR 4/1) clay; massive; sticky; flows easily between fingers when squeezed, leaving a small residue that is dominantly live roots and fibric materials; about 10 percent by volume live roots; about 10 percent by volume organic matter; common coarse fragments of wood; common fine flakes of mica; very strongly acid; clear smooth boundary.

C3g—60 to 75 inches; very dark gray (N 3/0) clay; massive; sticky; flows easily between fingers when squeezed, leaving a small residue that

is dominantly fibric materials; about 15 percent by volume organic matter; common coarse fragments of wood; few fine flakes of mica; very strongly acid.

These soils have an N-value that is greater than 0.7 in all mineral layers between the surface and a depth of 40 inches. Reaction is extremely acid to strongly acid in about the upper 40 inches, and it is very strongly acid to slightly acid below a depth of about 40 inches.

The O1 horizon, where present, is 1 to 6 inches thick and consists of leaves, grasses, twigs, and roots. It is very dark gray, very dark grayish brown, dark brown, dark gray, or dark grayish brown. The mineral fraction ranges from 2 to 20 percent by volume and is silty clay loam, silty clay, or clay.

The Ag horizon is 4 to 34 inches thick. It is very dark gray, very dark grayish brown, dark gray, gray, grayish brown, light brownish gray, or very pale brown. Texture is silty clay loam, silty clay, or clay.

The Cg horizon to a depth of at least 40 inches below the mineral surface is very dark gray, very dark grayish brown, dark gray, dark greenish gray, greenish gray, dark grayish brown, gray, or light brownish gray. Texture is silty clay loam, clay loam, silty clay, or clay. At a depth of more than 40 inches below the mineral surface are organic layers, sandy layers, loamy layers, or clayey layers. Some of these layers have an N-value that is less than 0.7. Fragments of wood, logs, and buried stumps are present in most pedons.

Lynchburg series

The Lynchburg series consists of deep, somewhat poorly drained, moderately permeable soils that formed in thick loamy Coastal Plain sediment. These nearly level soils are on broad, low uplands and in shallow depressions. The water table is 0.5 to 1.5 feet below the surface in winter and early in spring. Slope is generally less than 1 percent but ranges up to 2 percent along drainageways.

Lynchburg soils are geographically closely associated with Goldsboro, Norfolk, Paxville, and Rains soils. Goldsboro soils are on higher elevations than the Lynchburg soils and are moderately well drained. Norfolk soils are on the highest ridges and are well drained. Paxville soils are in the depressions and drainageways, are very poorly drained, and have a thick, dark colored surface layer. Rains soils are in low areas and are poorly drained.

Typical pedon of Lynchburg loamy fine sand, 0.4 mile northwest of Pineland, 700 feet west of junction of U.S. Highway 601 and South Carolina Primary Highway 462, 40 feet north of South Carolina Primary Highway 462:

Ap—0 to 8 inches; dark gray (10YR 4/1) loamy fine sand; weak medium granular structure; very friable; many fine and medium roots; medium acid; clear smooth boundary.

A2—8 to 17 inches; pale brown (10YR 6/3) loamy fine sand; weak medium granular structure; very friable; many fine and medium roots; many fine pores; medium acid; clear smooth boundary.

B1—17 to 25 inches; yellowish brown (10YR 5/4) fine sandy loam; common medium faint light brownish gray (10YR 6/2) and common fine faint yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; very friable; common fine and medium roots; many fine pores; strongly acid; clear wavy boundary.

B21t—25 to 34 inches; mottled, light brownish gray (10YR 6/2) and yellowish brown (10YR 5/4) sandy clay loam; weak medium subangular blocky structure; friable; patchy clay films on faces of peds; few fine roots; few firm yellowish brown nodules; very strongly acid; gradual wavy boundary.

B22tg—34 to 52 inches; gray (10YR 6/1) sandy clay loam; many coarse distinct yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; friable; patchy clay films on faces of some peds; very strongly acid; gradual wavy boundary.

B23tg—52 to 64 inches; mottled, gray (10YR 6/1), yellowish brown (10YR 5/8), strong brown (7.5YR 5/6), and red (2.5YR 4/6) sandy clay loam; weak medium subangular blocky structure; friable; patchy clay films on faces of some peds; very strongly acid; gradual wavy boundary.

Cg—64 to 72 inches; mottled, gray (10YR 6/1) and yellowish brown (10YR 5/6) sandy loam; common medium distinct strong brown (7.5YR 5/6) mottles; massive; very friable; streaks and pockets of sandy clay loam; very strongly acid.

The thickness of the solum is more than 60 inches. Reaction is very strongly acid to strongly acid throughout except where the surface layer has been limed.

The A horizon is 7 to 19 inches thick. The A1 or Ap horizon is 3 to 12 inches thick. It is very dark gray, very dark grayish brown, dark gray, or dark grayish brown. The A2 horizon, where present, is 3 to 12 inches thick. It is pale brown, light brownish gray, grayish brown, or dark grayish brown. The A horizon is fine sandy loam, sandy loam, loamy fine sand, or loamy sand.

The B1 horizon, where present, is 4 to 15 inches thick. It is yellowish brown, light yellowish brown, pale brown, or brown with few to many mottles in shades of gray, yellow, and brown. Texture is fine sandy loam or sandy loam.

The B2t horizon is 30 to more than 50 inches thick. The upper part of the horizon is yellowish brown, brownish yellow, light yellowish brown, pale brown, or light brownish gray and has common to many mottles in shades of gray, yellow, brown, and red; or it is variegated with these colors. The lower part of the B2t horizon has dominantly gray colors with common to many mottles in shades of yellow, brown, and red. Texture is commonly sandy clay loam but includes fine sandy loam and sandy clay. The upper 20 inches of the B horizon contains 18 to 35 percent clay.

The B3g horizon, where present, is 11 to 40 inches thick. It has dominantly gray colors with common to many mottles in shades of yellow, brown, and red. Texture is sandy loam, fine sandy loam, sandy clay loam, or sandy clay.

The Cg horizon is gray with many yellow, brown, and red mottles, or it is variegated with these colors. It is commonly sandy loam but includes loamy sand, sandy clay loam, and sandy clay. Pockets and strata of contrasting textures are common in this horizon.

Lynn Haven series

The Lynn Haven series consists of poorly drained sandy soils that have thick, dark colored epipedons and a weakly cemented Bh horizon within 30 inches of the surface. These nearly level soils have moderately rapid or moderate permeability. They formed in thick sandy Coastal Plain sediment in low areas. The water table is near the surface for about 6 months each year.

Lynn Haven soils are geographically associated with the Chipley, Lakeland, Osier, and Pickney soils. All of these associated soils do not have a Bh horizon. Chipley soils are on higher elevations and are moderately well drained. Lakeland soils are on the higher ridges and are excessively drained. Osier soils are in low areas and are poorly drained. Pickney soils are in low depressional areas and drainageways and are very poorly drained.

Typical pedon of Lynn Haven fine sand, 3.2 miles southeast of Grays, 0.75 mile north of the junction of South Carolina Secondary Highway 111 and South Carolina Secondary Highway 38, 2,000 feet west of South Carolina Secondary Highway 111:

A1—0 to 13 inches; black (10YR 2/1) fine sand; weak fine granular structure; very friable; many fine and medium roots; common uncoated sand grains; very strongly acid; clear smooth boundary.

A2—13 to 16 inches; light gray (10YR 6/1) fine sand; single grained; loose; common fine and medium roots; few fine vertical streaks of very dark gray (10YR 3/1) fine sand; many uncoated sand grains; very strongly acid; abrupt wavy boundary.

B21h—16 to 20 inches; dark reddish brown (5YR 3/2) fine sand; common medium distinct vertical streaks of black (10YR 2/1) fine sand; weak medium subangular blocky structure parting to weak fine granular; friable; weakly cemented; common fine and medium roots; most sand grains coated with organic matter; very strongly acid; gradual wavy boundary.

B22h—20 to 32 inches; dark reddish brown (5YR 2/2) fine sand; few coarse faint black (10YR 2/1) mottles; weak coarse faint subangular blocky structure parting to weak fine granular; friable; weakly cemented; many sand grains coated with organic matter; strongly acid; gradual wavy boundary.

A'2—32 to 60 inches; pale brown (10YR 6/3) fine sand; common medium distinct dark brown (7.5YR 4/2) mottles; single grained; loose; strongly acid; gradual wavy boundary.

B'h—60 to 72 inches; dark brown (7.5YR 4/2) fine sand; few medium faint very dark gray (5YR 3/1) mottles; single grained; loose; strongly acid.

Texture is sand or fine sand to a depth of 72 inches or more. Reaction is extremely acid to strongly acid throughout.

The A horizon is 12 to 20 inches thick. The A1 or Ap horizon is 10 to 15 inches thick. It is black or very dark gray. Few to many uncoated sand grains occur in this horizon and give it a salt-and-pepper appearance when the soil is dry. The A2 horizon commonly is 2 to 5 inches thick but ranges up to 10 inches. It is gray, grayish brown, light gray, or light brownish gray.

The Bh horizon commonly is within the depth of 2 feet and is 10 to 30 inches thick. It is black, very dark brown, dark reddish brown, or dark brown. Sand grains are well coated with organic matter. Cementation is weak to moderate.

In some pedons A'2 and B'h horizons are present. In these pedons the A'2 is 10 to 30 inches thick. It is pale brown, grayish brown, light brownish gray, gray, or light gray. The B'h horizon is similar to the Bh horizon.

Murad series

The Murad series consists of deep, moderately well and somewhat poorly drained, moderately permeable soils that formed in sandy and loamy Coastal Plain sediment. These nearly level soils are on the uplands of intermediate elevations. The water table commonly is within 1.5 to 3 feet of the surface during winter. Slopes are generally less than 1 percent but range up to 2 percent along drainageways.

Murad soils are geographically associated with the Chisolm, Coosaw, Eddings, and Williman soils. Chisolm soils are on the highest ridges, are well drained, and have a Bt horizon beginning at a depth between 20 and 40 inches. Coosaw soils are on the intermediate ridges, are somewhat poorly drained, and have a Bt horizon beginning at a depth between 20 and 40 inches. Eddings soils are on the highest ridges, are well drained, and have a Bt horizon beginning at a depth between 40 and 60 inches. Williman soils are in low areas, are poorly drained, and have a Bt horizon beginning at a depth between 20 and 40 inches.

Typical pedon of Murad fine sand, 1.75 miles southwest of Sheldon, 2.5 miles south of the junction of South Carolina Secondary Highway 19 and U.S. Highway 17, 3,500 feet east of South Carolina Secondary Highway 19 on unimproved road, 600 feet north of road:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) fine sand; weak medium granular structure; very friable; many fine roots; common medium roots; slightly acid; abrupt smooth boundary.

A21—8 to 21 inches; light yellowish brown (2.5Y 6/4) fine sand; common fine faint light gray mottles; weak fine granular structure; very friable; few fine and medium roots; slightly acid; clear wavy boundary.

A22—21 to 39 inches; light gray (10YR 7/1) fine sand; common medium faint very pale brown (10YR 7/3) and few medium distinct light yellowish brown (10YR 6/4) mottles; weak medium subangular blocky structure; very friable; few fine roots; slightly acid; clear wavy boundary.

A23—39 to 49 inches; light gray (10YR 7/1) fine sand; common medium prominent strong brown (7.5YR 5/8) and common medium distinct light yellowish brown (10YR 6/4) mottles; weak medium subangular blocky structure; very friable; few fine roots; few fine and medium firm nodules with reddish brown centers; slightly acid; clear wavy boundary.

B1—49 to 60 inches; very pale brown (10YR 7/4) fine sandy loam; many medium distinct strong brown (7.5YR 5/6), common medium prominent yellowish red (5YR 4/6), and common medium distinct light gray (10YR 7/2) mottles; weak medium subangular blocky structure; very friable; few fine roots; strongly acid; clear wavy boundary.

B21t—60 to 67 inches; yellowish brown (10YR 5/8) sandy clay loam; many medium distinct light gray (10YR 7/2), common medium distinct red (2.5YR 4/8), and common medium faint strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; friable; few faint clay films on faces of some peds; few fine flakes of mica; strongly acid; clear wavy boundary.

B22tg—67 to 80 inches; light gray (5Y 7/1) sandy clay loam; common medium distinct strong brown (7.5YR 5/6) and common medium distinct light yellowish brown (2.5Y 6/4) mottles; weak medium subangular blocky structure; friable; few faint clay films on faces of some peds; few fine flakes of mica; strongly acid; clear wavy boundary.

C—80 to 85 inches; brownish yellow (10YR 6/6) loamy fine sand; common medium distinct light gray (10YR 7/1) and strong brown (7.5YR 5/6) mottles; massive; very friable; few fine flakes of mica; strongly acid.

The thickness of the solum ranges from 60 to more than 85 inches. Reaction is very strongly acid to slightly acid throughout. Few to common nodules that are 0.2 to 2.0 centimeters in diameter are in some pedons. They are more common at a depth of about 40 inches.

The A horizon is 41 to 57 inches thick. The A1 or Ap horizon is 5 to 15 inches thick. It is black, very dark gray, very dark grayish brown, dark gray, dark grayish brown, grayish brown, or brown. Where the values are less than 4, the A1 or Ap is less than 10 inches thick. The A2 horizon is 27 to 52 inches thick. It is brown, yellowish brown, light brownish gray, pale brown, light yellowish brown, light gray, very pale brown, yellow, or brownish yellow. Mottles in shades of gray, yellow, and brown are in the A2 horizon in some pedons. Texture of the A horizon is loamy fine sand, loamy sand, or fine sand.

The B1 horizon, where present, is 3 to 17 inches thick. It is yellowish brown, brownish yellow, light yellowish brown, pale brown, or very pale brown. Mottles in shades of gray, yellow, brown, and red are few to common. Texture is fine sandy loam or sandy loam.

The B2t horizon is 6 to 34 inches thick. The upper part is strong brown, yellowish brown, pale brown, very pale brown, light yellowish brown, brownish yellow, reddish yellow, or light gray. Mottles in shades of gray, yellow, brown, and red are few to many. The lower part of the B2t horizon commonly is light gray but includes gray, light olive gray, light brownish gray, light yellowish brown, and strong brown. Mottles in shades of red, brown, yellow, and gray are common to many. Texture commonly is sandy clay loam but includes fine sandy loam and sandy loam.

The B3 horizon, where present, is 4 to 30 inches thick. It is gray, light gray, light olive gray, light brownish gray, light yellowish brown, or strong brown and has many mottles, or it is variegated with these colors. Texture is sandy loam, fine sandy loam, sandy clay loam, or sandy clay.

The C horizon is light gray, light brownish gray, very pale brown, light yellowish brown, or brownish yellow with common to many mottles in shades of gray, yellow, brown, and red, or it is variegated with these colors. Texture commonly is loamy fine sand but includes sandy loam, fine sandy loam, and sandy clay loam.

Nemours series

The Nemours series consists of moderately well drained, slowly permeable soils that formed in clayey Coastal Plain sediment. These nearly level and gently sloping soils are on uplands. The water table commonly is within 1.5 to 2.5 feet of the surface during winter and early in spring. Slopes range from 0 to 6 percent but are generally less than 2 percent.

Nemours soils are geographically associated with the Bladen, Cape Fear, Eulonia, and Wahee soils. Bladen soils are in low areas and are poorly drained. Cape Fear soils are in depressions and poorly defined drainageways, are very poorly drained and have a thick, dark colored surface layer. Eulonia soils are on the uplands, are moderately well drained, and have 35 to 45 percent clay in the upper 20 inches of the B horizon. Wahee soils are on the low ridges and are somewhat poorly drained.

Typical pedon of Nemours fine sandy loam, 0 to 2 percent slopes, 3.5 miles northeast of Gardens Corner, 165 feet southeast of U.S. Highway 17:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) fine sandy loam; few fine distinct light gray and dark brown mottles; weak medium granular structure; very friable; many fine roots; few fine pores; medium acid; abrupt smooth boundary.

A2—7 to 9 inches; pale brown (10YR 6/3) fine sandy loam; few fine faint yellow and few fine distinct yellowish red mottles; weak medium subangular blocky structure; friable; few fine roots; few fine pores; strongly acid; abrupt wavy boundary.

B21t—9 to 18 inches; red (2.5YR 4/6) clay; many fine distinct strong brown mottles; strong fine subangular and angular blocky structure; firm, sticky, and plastic; patchy distinct clay films on faces of peds; few fine roots; few fine pores; extremely acid; clear wavy boundary.

B22tg—18 to 44 inches; light brownish gray (10YR 6/2) clay; many coarse prominent red (10R 4/6) and strong brown (7.5YR 5/6) mottles; moderate medium subangular and angular blocky structure; firm, sticky, plastic; patchy distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

B3g—44 to 55 inches; light brownish gray (2.5Y 6/2) sandy clay loam; common medium distinct yellow (10YR 7/6), strong brown (7.5YR 5/6), and red (2.5YR 5/6) mottles; weak medium subangular blocky structure; firm; very strongly acid; gradual wavy boundary.

C1—55 to 63 inches; pale brown (10YR 6/3) fine sandy loam; many coarse distinct yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), and light brownish gray (2.5Y 6/2) mottles; massive; very friable; very strongly acid; gradual smooth boundary.

C2—63 to 80 inches; mottled, light gray (10YR 7/2) and yellowish brown (10YR 5/8) loamy sand; massive; very friable; pockets of sandy clay loam; very strongly acid.

The thickness of the solum ranges from 50 to more than 72 inches. Reaction below the A horizon is extremely acid to strongly acid. Few to common fine flakes of mica are in the B and C horizons of some pedons.

The A horizon is 2 to 19 inches thick. The A1 or Ap horizon is 2 to 12 inches thick. It is gray, dark gray, dark grayish brown, grayish brown, very dark gray, dark brown, or pale brown. Where this horizon is very dark gray, it is less than 10 inches thick. The A2 horizon, where present, is 1 to 16 inches thick. It is pale brown, very pale brown, light yellowish brown, or light gray. Texture of the A horizon commonly is fine sandy loam but includes sandy loam, loamy fine sand, and loamy sand.

The B1 horizon, where present, is 3 to 7 inches thick. It is brownish yellow, light yellowish brown, yellowish brown, strong brown, or yellowish red. Texture is fine sandy loam or clay loam.

The B2t horizon is 16 to 46 inches thick. The upper part of this horizon is red or yellowish red and has common to many yellow and brown mottles, or it is variegated with shades of red, brown, and yellow. Mottles that have a chroma of 2 or less are within the upper 24 inches of the B2t horizon. The lower part of the B2t horizon is mottled gray, red, and brown, or it is dominantly gray and has brown and red mottles. The B2t horizon is dominantly clay but includes sandy clay. The upper 20 inches averages 45 percent or more clay.

The B3g horizon is 7 to 36 inches thick. It is mottled gray, red, and brown, or it is gray and has brown and red mottles. Texture is sandy clay, sandy clay loam, or sandy loam.

The C horizon is gray and has many yellow, brown, and red mottles; it has a high chroma matrix and has many gray mottles; or it is variegated with shades of red, brown, and gray. Texture is sandy clay loam, fine sandy loam, sandy loam, or loamy sand.

Norfolk series

The Norfolk series consists of deep, well drained, moderately permeable soils that formed in thick, loamy Coastal Plain sediment. These nearly level and gently sloping soils are on uplands of the higher elevations. The water table commonly is more than 6 feet below the surface. Slopes are generally less than 2 percent but range up to 6 percent along drainageways.

Norfolk soils are geographically associated with the Bonneau, Goldsboro, Lynchburg, Rains, and Paxville soils. Bonneau soils are on high ridges, are moderately well drained, and have an A horizon that is 20 to 40 inches thick. Goldsboro soils are on intermediate ridges and are moderately well drained. Lynchburg soils are on low ridges and are somewhat poorly drained. Rains soils are poorly drained. Paxville soils are in depressions and drainageways, are very poorly drained, and have a thick, dark colored surface layer.

Typical pedon of Norfolk loamy fine sand, 0 to 2 percent slopes, 3.25 miles southeast of Robertsville, 2,300 feet west of U.S. Highway 321 on entrance road to club house, 50 feet east of road:

Ap—0 to 8 inches; grayish brown (10YR 5/2) loamy fine sand; weak fine granular structure; very friable; many fine roots; many fine pores; neutral; clear smooth boundary.

A2—8 to 15 inches; light yellowish brown (10YR 6/4) loamy fine sand; few fine faint yellowish brown mottles; weak medium subangular blocky structure; very friable; few fine and medium roots; neutral; clear wavy boundary.

B1—15 to 19 inches; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; friable; few fine and medium roots; few medium iron concretions; neutral; gradual wavy boundary.

B21t—19 to 42 inches; yellowish brown (10YR 5/6) sandy clay loam; few fine distinct strong brown mottles; weak medium subangular blocky structure; friable; thin discontinuous clay films on faces of peds; few fine and medium roots; few fine and medium iron concretions; strongly acid; clear smooth boundary.

B22t—42 to 52 inches; brownish yellow (10YR 6/6) sandy clay loam; few medium distinct yellowish red (5YR 5/8) and strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; friable; thin discontinuous clay films on faces of peds; few fine and medium roots; few fine splotches of uncoated sand grains; few fine and medium concretions; very strongly acid; clear wavy boundary.

B23t—52 to 60 inches; yellowish brown (10YR 5/6) sandy clay; common medium distinct yellowish red (5YR 5/8) and yellow (10YR 7/6), and a few medium distinct light gray (10YR 7/1) mottles; weak medium subangular blocky structure; friable; thin discontinuous clay films on faces of peds; few fine and medium concretions; very strongly acid; clear wavy boundary.

B3—60 to 70 inches; mottled yellowish brown (10YR 5/6), red (2.5YR 4/8), reddish yellow (5YR 6/6), and light gray (10YR 7/1) sandy clay; weak medium angular blocky structure; friable; pockets and strata of sandy materials; few firm red and yellowish red nodules; very strongly acid.

The thickness of the solum ranges from 60 to more than 90 inches. Reaction is very strongly acid or strongly acid throughout, except where the soil has been limed. A few fine or medium iron concretions are in some pedons.

The A horizon is 12 to 16 inches thick. The A1 or Ap horizon is 4 to 9 inches thick. It is gray, grayish brown, or dark grayish brown. The A2 horizon is 4 to 12 inches thick. It is pale brown or light yellowish brown. Texture of the A horizon is fine sandy loam, sandy loam, loamy fine sand, or loamy sand.

The B1 horizon is 3 to 5 inches thick. It is light yellowish brown, yellowish brown, or brownish yellow sandy loam or fine sandy loam.

The B2t horizon is 31 to more than 50 inches thick. It is brownish yellow, yellowish brown, or strong brown. The lower part of the B2t horizon commonly is mottled in shades of yellow, brown, red, and occasionally gray. Texture commonly is sandy clay loam. Some pedons have sandy clay in the lower part of the B2t horizon. The clay content ranges from 18 to 35 percent in the upper 20 inches of this horizon.

The B3 horizon is 10 to 30 inches thick. It commonly is mottled in shades of yellow, brown, red, and gray. Texture is sandy loam, fine sandy loam, sandy clay loam, or sandy clay.

Ocilla series

The Ocilla series consists of deep, somewhat poorly drained, moderately permeable soils that formed in sandy and loamy Coastal Plain sediment. These nearly level soils are on broad uplands. The water table is within 1 to 2.5 feet of the surface late in winter and early in spring during most years. Slopes are generally less than 1 percent but range up to 2 percent along drainageways.

Ocilla soils are geographically associated with the Albany, Blanton, Bonneau, Goldsboro, Lynchburg, and Pelham soils. Albany soils are on positions that are similar to the Ocilla soils but have a thicker A horizon. Blanton and Bonneau soils are on higher elevations, and the Blanton soils have a thicker A horizon. Goldsboro soils are on slightly higher elevations and have an A horizon less than 20 inches thick. Lynchburg soils are commonly on slightly lower elevations and have an A horizon less than 20 inches thick. Pelham soils are at lower elevations, on broad flats, in depressions, and along drainageways.

Typical pedon of Ocilla loamy fine sand, forested, 3 miles west of Ridgeland, 300 feet north of junction of unimproved road and South Carolina Primary Highway 336, 50 feet on west side of unimproved road:

A1—0 to 7 inches; dark gray (10YR 4/1) loamy fine sand; weak fine granular structure; very friable; many fine and few coarse roots; strongly acid; clear smooth boundary.

A21—7 to 14 inches; pale brown (10YR 6/3) loamy fine sand; few medium distinct dark gray (10YR 4/1) mottles; weak medium granular structure; very friable; many fine and medium roots; common fine pores; strongly acid; gradual smooth boundary.

A22—14 to 23 inches; pale yellow (2.5Y 7/4) loamy fine sand; weak medium granular structure; very friable; common fine and few medium roots; many fine pores; few fine quartz grains; strongly acid; clear smooth boundary.

A23—23 to 33 inches; light yellowish brown (10YR 6/4) loamy fine sand; common medium faint yellowish brown (10YR 5/8) and few fine faint light brownish gray mottles; weak coarse subangular blocky structure; very friable; common fine roots; many fine pores; few medium quartz grains; strongly acid; clear smooth boundary.

B21t—33 to 36 inches; brownish yellow (10YR 6/6) sandy clay loam; common medium distinct light gray (10YR 6/1), strong brown (7.5YR 5/8), and red (2.5YR 4/6) mottles; weak medium subangular blocky structure; friable; patchy clay films on faces of some peds; few fine roots; few fine pores; very strongly acid, clear smooth boundary.

B22t—36 to 56 inches; gray (10YR 6/1) sandy clay loam; many medium prominent red (2.5YR 4/6), and many medium distinct strong brown (7.5YR 5/8) mottles; weak medium and coarse subangular blocky structure; friable; patchy clay films on faces of some peds; few fine pores; very strongly acid; gradual wavy boundary.

B23t—56 to 69 inches; mottled, gray (10YR 6/1), strong brown (7.5YR 5/8), and red (2.5YR 4/8) sandy clay loam; weak medium subangular blocky structure; friable; patchy clay films on faces of some peds; few fine flakes of mica; very strongly acid; clear wavy boundary.

B3g—69 to 85 inches; gray (10YR 6/1) sandy clay loam; common medium distinct reddish yellow (7.5YR 6/6) and common fine prominent red (10R 5/8) mottles; massive; firm; few fine flakes of mica; very strongly acid.

The thickness of the solum ranges from 72 to 90 inches. Reaction is strongly acid or very strongly acid throughout the profile.

The A horizon is 21 to 35 inches thick. The A1 or Ap horizon is 5 to 7 inches thick. It is very dark gray, dark gray, or dark grayish brown. The A2 horizon is 14 to 26 inches thick. It is light yellowish brown, pale brown, or pale yellow. Texture of the A horizon is loamy fine sand or loamy sand.

The B1 horizon, where present, is 5 to 9 inches thick. It is brownish yellow, yellowish brown, or light yellowish brown. Texture is fine sandy loam or sandy loam. Few to common fine or medium gray, yellow, and brown mottles are throughout the horizon.

The B2t horizon is 28 to 50 inches thick. The upper part of the B2t horizon is brownish yellow, yellow, or light yellowish brown. The lower part of the B2t horizon is dominantly gray. Few to many fine or medium gray, yellow, brown, and red mottles are throughout the horizon. Texture commonly is sandy clay loam but includes fine sandy loam and sandy loam. The clay content of the upper part of the B2t horizon ranges from 15 to 35 percent.

The B3g horizon is 12 to 30 inches thick. It is gray or light gray and has few to many fine or medium yellow, brown, and red mottles, or it is variegated with these colors. Texture is sandy loam, sandy clay loam, or sandy clay.

Okeetee series

The Okeetee series consists of deep, somewhat poorly drained, slowly permeable soils that formed in clayey Coastal Plain sediment. These nearly level soils are on broad, low ridges. The water table is 0.5 to 1.0 foot below the surface late in winter and early in spring. Slope is generally less than 1 percent but ranges up to 2 percent along drainageways.

Okeetee soils are geographically associated with the Argent, Eulonia, Nemours, Santee, and Wahee soils. Argent and Santee soils are on the lower elevations. Eulonia and Nemours soils are on the higher ridges and are moderately well drained. Wahee soils have base saturation less than 35 percent at 50 inches below the top of the B horizon.

Typical pedon of Okeetee fine sandy loam, forested, in an area of Argent-Okeetee association, 10.3 miles southeast of Ridgeland, 3,900 feet south of U.S. Highway I-95 bridge across south fork of One Mile Swamp, 240 feet east of U.S. Highway 17 and 300 feet west of I-95 retaining fence:

A1—0 to 5 inches; dark gray (10YR 4/1) fine sandy loam; light gray (10YR 6/1) when dry; moderate medium granular structure; very friable; many fine and medium roots; very strongly acid; clear wavy boundary.

A2—5 to 7 inches; light brownish gray (2.5Y 6/2) fine sandy loam; common medium faint light yellowish brown (2.5Y 6/4) and grayish brown (10YR 5/2) mottles; weak medium subangular blocky structure; very friable; many fine roots; many fine pores; very strongly acid; clear wavy boundary.

B1—7 to 11 inches; pale brown (10YR 6/3) clay loam; many medium distinct strong brown (7.5YR 5/6), common medium faint light brownish gray (10YR 6/2), and common fine prominent red mottles; weak medium subangular blocky structure; friable, sticky, slightly plastic; patchy clay films on faces of peds; thin coatings of light brownish gray fine sandy loam from above horizon on surfaces of some peds; common fine roots; few fine pores; very strongly acid; clear wavy boundary.

B21t—11 to 18 inches; light brownish gray (10YR 6/2) clay; many medium distinct yellowish brown (10YR 5/4), common medium distinct strong brown (7.5YR 5/8), and common fine prominent yellowish red mottles inside peds; moderate medium subangular blocky structure; very firm, very sticky, very plastic; distinct clay films on faces of peds; few fine roots; very strongly acid; gradual wavy boundary.

B22tg—18 to 50 inches; gray (10YR 6/1) clay; many medium distinct yellowish brown (10YR 5/6), common medium distinct strong brown (7.5YR 5/8), and yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; very firm, very sticky, very plastic; thin patchy clay films on faces of peds; few fine roots; few fine flakes of mica; strongly acid; clear wavy boundary.

B3g—50 to 78 inches; light brownish gray (2.5Y 6/2) sandy clay loam with pockets of sandy loam and loamy sand; many coarse prominent yellowish red (5YR 5/8) mottles; massive; very friable; common fine flakes of mica; slightly acid.

The thickness of the solum ranges from 50 to 85 inches. Reaction is very strongly acid to slightly acid to a depth of about 50 to 60 inches. Below this depth it is medium acid to moderately alkaline.

The A horizon is 3 to 11 inches thick. The A1 or Ap horizon is 3 to 5 inches thick. It is gray, dark gray, very dark gray, grayish brown, or dark grayish brown. The A2 horizon, where present, is 3 to 7 inches thick. It is pale brown, light yellowish brown, yellowish brown, or brownish yellow. Few to common fine or medium gray, yellow, brown, and red mottles are throughout the horizon.

The B1 horizon, where present, is 3 to 7 inches thick. It is pale brown, light yellowish brown, yellowish brown, or brownish yellow. Few to common fine or medium gray, yellow, brown, and red mottles are throughout the horizon.

The B2t horizon is 18 to 50 inches thick. The upper part of the B2t horizon is gray, light gray, light olive gray, or brownish gray. Few to many fine or medium gray, yellow, brown, and red mottles are throughout the horizon. The lower part of the B2t horizon is gray, light gray, light olive gray, or light brownish gray. Common to many fine or medium gray, yellow, brown, and red mottles are throughout the horizon. Texture of the B2t horizon is clay or sandy clay.

The B3g horizon has about the same range of colors as the lower part of the B2t horizon. Texture of the B3 horizon includes clay, sandy clay, and sandy clay loam with pockets of sandy loam or loamy sand.

Onslow series

The Onslow series consists of deep, moderately well or somewhat poorly drained, moderately permeable soils that formed in sandy and clayey Coastal Plain sediment. These nearly level soils are on uplands. The water table is within 1.5 to 3.0 feet of the surface for about 6 months each year. Slopes are generally less than 1 percent but range up to 2 percent along drainageways.

Onslow soils are geographically associated with the Goldsboro, Lynchburg, Ocilla, Pelham, and Rains soils. Goldsboro soils are on higher elevations, are moderately well drained, and do not have a Bh horizon. Lynchburg soils are on low ridges, are somewhat poorly drained, and do not have a Bh horizon. Ocilla soils are on low ridges, are somewhat poorly drained, have an A horizon that is 20 to 40 inches thick, and do not have a Bh horizon. Pelham soils are in low areas, are poorly drained, have an A horizon that is 20 to 40 inches thick, and do not have a Bh horizon. Rains soils are in low areas, are poorly drained, and do not have a Bh horizon.

Typical pedon of Onslow loamy fine sand, 1.5 miles south of Point South, 1.25 miles east of U.S. Interstate Highway I-95:

Ap—0 to 6 inches; dark gray (10YR 4/1) loamy fine sand; weak fine granular structure; very friable; many fine roots; extremely acid; abrupt smooth boundary.

A2&Bh—6 to 14 inches; light brownish gray (10YR 6/2) with about 45 percent dark brown (7.5YR 3/2) and dark reddish brown (5YR 3/4) loamy fine sand; weak medium subangular blocky structure parting to weak fine granular; friable; slightly brittle and weakly cemented; few fine roots; very strongly acid; clear wavy boundary.

A'2—14 to 18 inches; pale brown (10YR 6/3) fine sandy loam; common medium distinct brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; friable; few fine roots; few firm strong brown nodules; very strongly acid; clear wavy boundary.

B'21t—18 to 25 inches; light olive brown (2.5Y 5/4) fine sandy loam; few medium distinct strong brown (7.5YR 5/8), few medium faint yellowish brown (10YR 5/8), and a few fine distinct light brownish gray mottles; weak medium subangular blocky structure; friable; few fine roots; patchy clay films on faces of peds; very strongly acid; clear wavy boundary.

B'22tg—25 to 35 inches; gray (10YR 6/1) sandy clay loam; common medium distinct brownish yellow (10YR 6/6) and light brownish gray (2.5Y 6/2) and a few fine prominent red mottles; weak medium subangular blocky structure; friable; few faint patchy clay films on faces of peds; few dark brown concretions; very strongly acid; clear wavy boundary.

B'23tg—35 to 50 inches; gray (10YR 6/1) sandy clay loam; common medium prominent red (2.5YR 4/8) and common medium distinct yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; friable; few faint patchy clay films on faces of peds; very strongly acid; clear wavy boundary.

B'31g—50 to 70 inches; gray (5Y 6/1) sandy clay loam with pockets of fine sandy loam; many medium prominent red (2.5YR 4/8) and many medium distinct yellowish brown (10YR 5/8) mottles; massive; friable; very strongly acid; clear wavy boundary.

B'32g—70 to 84 inches; gray (5Y 6/1) sandy clay loam with pockets of sandy clay and fine sandy loam; few fine prominent red and a few fine distinct strong brown and yellowish brown mottles; massive; friable; strongly acid.

The thickness of the solum is 60 to more than 80 inches. Reaction is extremely acid to strongly acid throughout.

The A horizon is 5 to 12 inches thick. The A1 or Ap horizon is 4 to 9 inches thick. It is gray, dark gray, or dark grayish brown. The A2 horizon, where present, is 1 to 6 inches thick. It is gray, light gray, light brownish gray, pale brown, or light yellowish brown. The A2 and Bh horizon is 3 to 9 inches thick. The A2 part of this horizon commonly makes up about 30 to 75 percent of it but is significantly less in some

pedons. It is gray, light gray, light brownish gray, or pale brown. The Bh part of this horizon commonly makes up about 25 to 70 percent of it, and it is dark yellowish brown, dark brown, or dark reddish brown weakly cemented loamy fine sand, loamy sand, or fine sand. There is evidence of a faint to distinct Bh horizon in tilled areas.

The A'2 horizon, where present, is 3 to 8 inches thick. It is pale brown or light yellowish brown. Texture is fine sandy loam, loamy fine sand, or loamy sand.

The B'1 horizon, where present, is 4 to 12 inches thick. It is pale brown, light yellowish brown, light olive brown, or brownish yellow fine sand or sandy loam.

The B'2t horizon is 30 to 54 inches thick. The upper part is yellowish brown, light yellowish brown, light olive brown, or pale brown and has gray, yellow, brown, and red mottles, and the lower part is gray, light gray, or light brownish gray and has yellow, brown, and red mottles. Texture commonly is sandy clay loam but includes fine sandy loam in the upper part and sandy clay in the lower part.

The B'3g horizon is 9 to 34 inches thick. It has dominant gray colors and common to many mottles in shades of yellow, brown, and red. Texture is fine sandy loam or sandy clay loam, and commonly contains pockets or lenses of finer or coarser textured materials.

Osier series

The Osier series consists of poorly drained, rapidly permeable soils that formed in sandy Coastal Plain sediment. These nearly level soils are in low or depressional areas. The water table is within 12 inches of the surface for about 6 months during most years. Many areas are subject to frequent flooding for brief periods. Slopes are generally less than 1 percent.

Osier soils are geographically associated with the Chipley, Lakeland, and Pickney soils. Chipley soils are on the intermediate ridges and are moderately well drained. Lakeland soils are on the higher ridges and are excessively drained. Pickney soils are on the lower elevations in depressions and drainageways, have a thick, dark colored surface layer, and are very poorly drained.

Typical pedon of Osier loamy sand, 1.25 miles east of Yemassee, 0.8 mile southeast of crossing of South Carolina Secondary Highway 33, 50 feet on west side of woods road:

O1—1 to 0 inch; loose leaves and organic debris, largely undecomposed.

A1—0 to 5 inches; very dark gray (10YR 4/1) loamy sand; weak medium granular structure; very friable; many fine and common medium roots; common fine lenses and many single grains of uncoated sand; very strongly acid; clear wavy boundary.

C1—5 to 11 inches; grayish brown (10YR 5/2) sand; common medium faint dark gray (10YR 4/1) mottles; single grained; loose; common fine roots; few fine uncoated quartz grains; strongly acid; gradual wavy boundary.

C2—11 to 65 inches; light gray (10YR 7/2) sand; single grained; loose; many coarse uncoated sand grains (about 25 percent by volume); few dark gray loamy sand bodies; medium acid.

The thickness of the regolith is more than 60 inches. Reaction is very strongly acid to medium acid throughout the profile.

The A horizon is 4 to 7 inches thick. It is very dark grayish brown, very dark gray, dark gray, or black. Texture is sand, fine sand, or loamy sand.

The C horizon is gray, grayish brown, light brownish gray, or light gray. In places there are few to many brown, yellow, gray, and white mottles. Texture commonly is sand but includes fine sand, loamy sand, and coarse sand. Thin strata and pockets or lenses of sandy loam or fine sandy loam are present in some pedons.

Paxville series

The Paxville series consists of very poorly drained, moderately permeable soils that formed in loamy Coastal Plain sediment. These nearly level soils are in low areas, depressions, and poorly defined drainageways. The water table is at or near the surface for 4 to 6 months in most years. Slopes are generally less than 1 percent.

Paxville soils are geographically associated with the Goldsboro, Lynchburg, Norfolk, and Rains soils. Goldsboro soils are on intermediate ridges and are moderately well drained. Lynchburg soils are on low ridges and are somewhat poorly drained. Norfolk soils are on the higher ridges and are well drained. Rains soils are in low areas, in depressions, and are poorly drained.

Typical pedon of Paxville fine sandy loam, 3 miles northwest of Grays, 0.5 mile west of the junction of South Carolina Secondary Highway 112 and South Carolina Secondary Highway 111:

A1—0 to 15 inches; black (10YR 2/1) fine sandy loam; weak coarse subangular blocky structure; friable; many fine and common medium roots; very strongly acid; clear smooth boundary.

B21tg—15 to 38 inches; very dark gray (10YR 3/1) sandy clay loam; few medium faint dark grayish brown (10YR 4/2) mottles; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; distinct clay films on faces of peds; common fine and medium roots; very strongly acid; gradual smooth boundary.

B22tg—38 to 57 inches; very dark gray (10YR 3/1) sandy clay loam; moderate medium subangular blocky structure; firm, sticky, plastic; distinct clay films on faces of peds; common fine splotches of light gray and light brownish gray fine sand; very strongly acid; gradual smooth boundary.

B3g—57 to 64 inches; very dark gray (10YR 3/1) fine sandy loam; common medium faint very dark grayish brown (10YR 3/2) and a few coarse faint black (10YR 2/1) mottles; massive; friable; pockets of sandy clay loam and lenses of uncoated sand grains; very strongly acid; gradual smooth boundary.

Cg—64 to 80 inches; dark gray (10YR 4/1) loamy fine sand; many medium faint very dark grayish brown (10YR 3/2) mottles; massive; friable; very strongly acid.

The thickness of the solum ranges from 40 to more than 60 inches. Reaction is very strongly acid or strongly acid throughout except where the surface layer has been limed.

The A horizon is 10 to 20 inches thick. It commonly is black but includes very dark gray and very dark grayish brown. Texture is loam, fine sandy loam, or sandy loam.

The B1 horizon, where present, is 3 to 7 inches thick. It is dark gray, very dark gray, or black. Texture is fine sandy loam or sandy loam.

The B2tg horizon is 23 to 45 inches thick. It is very dark gray, dark gray, gray, or light gray. It commonly becomes lighter in color with increasing depth. In places there are few to common mottles in shades of yellow, brown, and red. Texture commonly is sandy clay loam but includes sandy loam and layers of clay loam and sandy clay. The clay content of the upper part of the B2tg horizon ranges from 18 to 35 percent.

The B3g horizon, where present, is 10 to 23 inches thick. It is very dark gray, dark gray, dark grayish brown, gray, or light gray and has few to common mottles in shades of yellow, brown, and red. Texture is fine sandy loam, sandy loam, or loamy sand.

The Cg horizon is dark gray, gray, brownish gray, or light gray loamy fine sand, loamy sand, or sand.

Pelham series

The Pelham series consists of deep, poorly drained, moderately permeable soils that formed in loamy Coastal Plain sediment. These nearly level soils are on broad flats, in depressions, and along drainageways. They are saturated with water late in winter and early in spring. Slopes are generally less than 1 percent, but range up to 2 percent.

Pelham soils are geographically associated with Albany, Blanton, Lynchburg, Ocilla, and Rains soils. Albany, Lynchburg, and Ocilla soils are somewhat poorly drained and are on intermediate elevations. Blanton soils are moderately well drained and are on the higher elevations. Rains soils occupy positions that are similar to the Pelham soils but have an A horizon that is less than 20 inches thick.

Typical pedon of Pelham loamy sand, forested, 1.25 miles northeast of Pineland, 0.9 mile east of junction of U.S. Highway 601 and South Carolina Primary Highway 462, 2,700 feet north of South Carolina Primary Highway 462:

A1—0 to 6 inches; very dark gray (10YR 3/1) loamy sand; weak fine granular structure; very friable; many fine and medium roots; many uncoated sand grains; few fine gravel; very strongly acid; gradual smooth boundary.

A2—6 to 32 inches; light brownish gray (10YR 6/2) loamy sand; common coarse faint splotches of light gray (10YR 7/2) and common coarse faint streaks of dark grayish brown (10YR 4/2); weak fine granular structure; very friable; common fine roots; few fine gravel; strongly acid; clear wavy boundary.

B21tg—32 to 38 inches; gray (10YR 5/1) sandy clay loam; common fine distinct reddish brown (5YR 4/4) and yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; faint patchy clay films on faces of some peds; few fine roots; few fine and medium gravel; common fine splotches of light gray (10YR 7/2) loamy sand; very strongly acid; clear wavy boundary.

B22tg—38 to 61 inches; gray (10YR 5/1) sandy clay loam; common medium distinct reddish brown (5YR 4/4) and few fine distinct dark yellowish brown mottles; weak medium subangular blocky structure; friable; patchy clay films on faces of peds; few fine roots; few fine gravel; few fine splotches of light gray loamy sand; very strongly acid; clear wavy boundary.

B31g—61 to 76 inches; light brownish gray (10YR 6/2) sandy loam with pockets of sandy clay loam; few medium faint pale brown (10YR 6/3) and few fine distinct reddish brown mottles; weak medium subangular blocky structure; friable; few fine gravel; very strongly acid; clear wavy boundary.

B32g—76 to 80 inches; light gray (10YR 7/1) sandy clay loam with pockets of sandy loam; common medium distinct grayish brown (10YR 5/2) and brownish yellow (10YR 6/6) mottles; massive; friable; few fine flakes of mica; very strongly acid.

The thickness ranges from 60 to 90 inches. Reaction is strongly acid or very strongly acid throughout the profile.

The A horizon is 24 to 38 inches thick. The A1 or Ap horizon is 5 to 9 inches thick. It is dark gray, very dark gray, or black. The A2 horizon is 5 to 35 inches thick. It is gray, light gray, or light brownish gray. The A horizon is loamy sand or sand.

The B1 horizon, where present, is 4 to 7 inches of gray, light gray, or light brownish gray sandy loam or fine sandy loam.

The B2tg horizon is 23 to 40 inches thick. It is dark gray, gray, light gray, or light brownish gray. It commonly becomes lighter in color with increasing depth. In places there are few to common fine and medium yellow, brown, and red mottles. Texture is sandy clay loam, fine sandy loam, or sandy loam. Pockets or lenses of coarser or finer materials are common in most pedons.

The B3g horizon is 10 to 30 inches thick. It is gray, light gray, or light brownish gray. Few to common fine or medium olive, yellow, brown, and red mottles are throughout the horizon. Texture is sandy loam or sandy clay loam. Pockets or lumps of sandy clay, loamy sand, or sand that are 2 to 5 inches in diameter are in this horizon in some pedons.

Pickney series

The Pickney series consists of very poorly drained, rapidly permeable soils that formed in sandy Coastal Plain sediment. These nearly level soils are in depressions and drainageways. They are commonly saturated with water in winter and early in spring. Slopes are generally less than 1 percent.

Pickney soils are geographically associated with the Chipley, Echaw, Lakeland, and Lynn Haven soils. Chipley and Echaw soils are on intermediate ridges and are moderately well drained, also, the Echaw soils have a Bh horizon that is at a depth of 30 to 50 inches. Lakeland soils are on the higher ridges and are excessively drained. Lynn Haven soils are in depressional areas, are poorly drained, and have a Bh horizon that is at a depth of less than 30 inches.

Typical pedon of Pickney loamy fine sand, 2.5 miles east of Grays, 2,300 feet south of the junction of South Carolina Secondary Highway 16 with South Carolina Secondary Highway 87, 2,800 feet east of South Carolina Secondary Highway 87:

A11—0 to 10 inches; black (10YR 2/1) loamy fine sand; weak medium granular structure; very friable; many fine and medium roots; about 15 percent by volume of organic matter; extremely acid; gradual smooth boundary.

A12—10 to 30 inches; very dark gray (10YR 3/1) loamy fine sand; weak medium granular structure; very friable; common fine and medium roots; few white uncoated sand grains; extremely acid; gradual wavy boundary.

C1—30 to 65 inches; very dark grayish brown (10YR 3/2) loamy fine sand; weak fine granular structure; very friable; many medium distinct white (10YR 8/2) splotches and uncoated sand grains; very strongly acid; clear smooth boundary.

C2g—65 to 80 inches; light gray (10YR 7/2) fine sand; many coarse faint pockets of white (10YR 8/2) uncoated fine sand; single grained; loose; medium acid.

Reaction is extremely acid to strongly acid in the A horizon and very strongly acid to medium acid in the C horizon.

The A horizon is 24 to 50 inches thick. The A11 horizon is 10 to 30 inches thick. It commonly is black but includes very dark gray and very dark grayish brown. The A12 horizon is 7 to 30 inches thick. It commonly is very dark gray but includes black and very dark grayish brown. Texture is loamy fine sand, loamy sand, or fine sand.

The C horizon is very dark gray, very dark grayish brown, dark grayish brown, grayish brown, or light gray. Few to common mottles in shades of brown, yellow, gray, and white occur in some pedons. Texture is loamy fine sand, fine sand, or sand.

Polawana series

The Polawana series consists of very poorly drained, rapidly permeable soils that formed in thick sandy Coastal Plain sediment. These nearly level soils are adjacent to drainageways and in depressional areas. The water table is at or near the surface for about 4 months

during most years. Slopes are generally less than 1 percent.

Polawana soils are geographically associated with the Ridgeland, Rosedhu, Seabrook, Seewee, and Wando soils. Ridgeland soils are on low ridges, are somewhat poorly drained, and have a Bh horizon. Rosedhu soils are in low, nearly level areas, are very poorly drained, and have a Bh horizon. Seabrook soils are on intermediate ridges and are moderately well drained. Seewee soils are on low ridges, are somewhat poorly drained, and have a Bh horizon that is about 18 to 30 inches below the surface. Wando soils are on the higher ridges and are excessively drained.

Typical pedon of Polawana loamy fine sand, 1.4 miles southeast of Frogmore, 0.5 mile east of St. Helena School, 0.8 mile south of U.S. Highway 21:

A11—0 to 19 inches; black (10YR 2/1) loamy fine sand; weak fine granular structure; very friable; common fine and medium roots; very strongly acid; clear smooth boundary.

A12—19 to 30 inches; very dark gray (10YR 3/1) fine sand; weak fine granular structure; very friable; few fine and medium roots; few fine pores; very strongly acid; clear smooth boundary.

C1g—30 to 50 inches; very dark grayish brown (10YR 3/2) fine sand; common fine distinct light gray mottles; single grained; loose; few fine roots; strongly acid; clear smooth boundary.

C2g—50 to 80 inches; light brownish gray (10YR 6/2) fine sand; common medium faint light gray (10YR 7/1) mottles; single grained; loose; strongly acid.

Reaction is very strongly acid to neutral throughout the profile, but it generally becomes less acid at a depth below about 50 inches. The content of organic matter in the A horizon ranges from about 3 to 12 percent.

The A horizon is 25 to 50 inches thick. The A11 horizon is 14 to 34 inches thick. It commonly is black but includes very dark gray and very dark grayish brown. The A12 horizon is 7 to 30 inches thick. It is very dark gray, very dark grayish brown, or very dark brown. Texture of the A horizon is loamy fine sand, loamy sand, or fine sand.

The C horizon is very dark gray, dark gray, gray, light gray, light brownish gray, very dark grayish brown, dark grayish brown, very dark brown, brown, or dark yellowish brown. Few to common mottles in shades of brown, olive, and gray are in some pedons. Texture is loamy fine sand, loamy sand, or fine sand.

Rains series

Rains series consists of deep, poorly drained, moderately permeable soils that formed in fine-loamy Coastal Plain sediment. These nearly level soils are in low areas and slight depressions. The water table is at or near the surface for about 6 months during most years. Slopes are generally less than 1 percent but range up to 2 percent along drainageways.

Rains soils are geographically associated with the Goldsboro, Lynchburg, Norfolk, Paxville, and Pelham soils. Goldsboro soils are on the intermediate ridges and are moderately well drained. Lynchburg soils are on the low ridges and are somewhat poorly drained. Norfolk soils are on the higher ridges and are well drained. Paxville soils are on the lower elevations, have a thick, dark colored surface layer, and are very poorly drained. Pelham soils are in low areas and slight depressions, have a sandy A horizon that is more than 20 inches thick, and are poorly drained.

Typical pedon of Rains fine sandy loam, 1.25 miles northwest of Robertsville, 2,300 feet north of U.S. Highway 321:

A1—0 to 7 inches; very dark gray (10YR 3/1) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; clear smooth boundary.

A2—7 to 11 inches; light brownish gray (10YR 6/2) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; common fine pores; very strongly acid; clear wavy boundary.

B21tg—11 to 16 inches; gray (10YR 6/1) sandy clay loam; few medium distinct yellowish brown (10YR 5/6) mottles; weak coarse subangular blocky structure; friable; faint patchy clay films on faces of a few peds; common fine and medium roots; common fine pores; very strongly acid; gradual wavy boundary.

B22tg—16 to 28 inches; gray (10YR 6/1) sandy clay loam; common medium distinct yellowish brown (10YR 5/6) and a few fine prominent red (2.5YR 4/6) mottles; weak medium subangular blocky structure; friable; thin patchy clay films on faces of peds; few fine roots; very strongly acid; gradual wavy boundary.

B23tg—28 to 45 inches; gray (10YR 6/1) sandy clay loam; common medium distinct brownish yellow (10YR 6/6) and light red (2.5YR 6/6) mottles; weak medium subangular blocky structure; friable; thin patchy clay films on faces of peds; few fine roots; few fine pores; very strongly acid; gradual wavy boundary.

B24tg—45 to 56 inches; gray (10YR 6/1) sandy clay loam; few medium prominent red (2.5YR 4/6) and a few fine distinct brownish yellow mottles; weak medium subangular blocky structure; firm; thin patchy clay films on faces of peds; few fine roots; very strongly acid; gradual wavy boundary.

B25tg—56 to 65 inches; gray (10YR 6/1) sandy clay loam; common medium distinct brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; friable; few thin patchy clay films on faces of peds; very strongly acid; gradual wavy boundary.

B3g—65 to 80 inches; light gray (10YR 7/1) sandy clay loam with strata and pockets of fine sandy loam; common medium distinct yellow (10YR 7/6) and light yellowish brown (10YR 6/4) mottles; massive; friable; strongly acid.

The thickness of the solum ranges from 60 to 90 inches. Reaction is very strongly acid or strongly acid throughout except where the surface layer has been limed.

The A horizon is 6 to 18 inches thick. The A1 or Ap horizon is 4 to 9 inches thick. It is dark gray, very dark gray, or black. The A2 horizon, where present, is 4 to 13 inches thick. It is light brownish gray or gray. Texture of the A horizon is fine sandy loam, sandy loam, loamy fine sand, or loamy sand.

The B1g horizon, where present, is 3 to 9 inches thick. It is gray, light brownish gray, or grayish brown. Few to common mottles in shades of brown and yellow are in most pedons. Texture is fine sandy loam or sandy loam.

The B2tg horizon is 37 to 58 inches thick. It is gray, grayish brown, light gray, or light brownish gray and commonly has few to many mottles in shades of gray, yellow, brown, and red. Texture is sandy clay loam or clay loam.

The B3g horizon is 5 to 20 inches thick. It is light gray or gray and commonly has few to many mottles in shades of gray, yellow, brown, and red. Texture is fine sandy loam, sandy clay loam, or sandy clay. Pockets and strata of contrasting textures commonly are in this horizon.

Ridgeland series

The Ridgeland series consists of somewhat poorly drained, moderately to moderately rapidly permeable soils that formed in thick sandy Coastal Plain sediment. These nearly level soils are in areas of the Lower Coastal Plain. The water table is at or near 1.5 to 2.5 feet of the surface for about 5 months during most years. Slopes are

generally less than 1 percent but range up to 2 percent along drainageways.

Ridgeland soils are geographically associated with the Polawana, Seabrook, Seewee, and Wando soils. Polawana soils are on the lower elevations in depressions and drainageways, have a thick, dark colored surface layer, and are very poorly drained. Seabrook soils are on the intermediate ridges and are moderately well drained. Seewee soils are on the low ridges, have a Bh horizon at a depth of 18 to 30 inches, and are somewhat poorly drained. Wando soils are on the higher ridges and are excessively drained.

Typical pedon of Ridgeland fine sand, 2.1 miles south of Frogmore, 1,100 feet southwest of the junction of South Carolina Secondary Highway 185 with South Carolina Secondary Highway 45, 50 feet west of South Carolina Secondary Highway 45:

Ap—0 to 8 inches; very dark gray (10YR 3/1) fine sand; many light gray uncoated sand grains; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; abrupt wavy boundary.

Bh—8 to 15 inches; dark reddish brown (5YR 3/2) fine sand; massive; firm; slightly brittle; common fine and medium roots; most sand grains coated with organic matter; strongly acid; gradual wavy boundary.

A'2—15 to 35 inches; very pale brown (10YR 7/4) fine sand; single grained; loose; few fine roots; many uncoated sand grains; strongly acid; gradual smooth boundary.

B'21h—35 to 54 inches; dark reddish brown (5YR 3/4) fine sand; massive; firm; slightly brittle; few fine roots; most sand grains coated with organic matter; medium acid; clear smooth boundary.

B'22h—54 to 84 inches; dark reddish brown (5YR 3/2) fine sand; massive; firm; slightly brittle; most sand grains coated with organic matter; medium acid.

Reaction is very strongly acid to slightly acid throughout. Texture is sand, fine sand, or loamy fine sand to a depth of more than 80 inches.

The A1 or Ap horizon is 3 to 9 inches thick. It is black, very dark brown, very dark gray, very dark grayish brown, dark gray, or dark grayish brown. The A1 or Ap horizon commonly rests directly on the Bh horizon, but in some places there is a discontinuous A2 horizon less than 2 inches thick.

The Bh horizon is 4 to 15 inches thick. It is black, very dark brown, dark reddish brown, very dark grayish brown, or dark brown.

The A'2 horizon is 10 to 40 inches thick. It is very pale brown, pale brown, light yellowish brown, light gray, grayish brown, or brown.

The B'h horizon is 4 to 40 inches thick. It is black, dark reddish brown, or dark brown. Some pedons do not have a B'h horizon and have a C horizon under the Bh horizon. The C horizon is light gray or light brownish gray.

Rosedhu series

The Rosedhu series consists of very poorly drained, moderately to moderately rapidly permeable soils that formed in thick sandy Coastal Plain sediment. These nearly level soils are in low areas. They are subject to flooding, and the water table is at or near the surface for about 8 months during most years. Slopes are generally less than 1 percent.

Rosedhu soils are geographically associated with the Baratari, Polawana, Ridgeland, Seabrook, Seewee, and Wando soils. Baratari soils are on low uplands, are poorly drained, and have a distinct A2 horizon. Polawana soils are on the lower elevations, are very poorly drained, and do not have a Bh horizon. Ridgeland soils are on the low ridges; are somewhat poorly drained, and have a thinner, dark colored surface layer than the Rosedhu soils. Seabrook soils are on the intermediate ridges and are moderately well drained. Seewee soils are on the low ridges, are somewhat poorly drained, and have a Bh horizon at a depth between 18 and 30 inches. Wando soils are on the higher ridges and are excessviely drained.

Typical pedon of Rosedhu fine sand, 3.2 miles southwest of Bluffton, 1 mile southwest of clubhouse of Palmetto Bluff, 550 yards southwest of entrance to clubhouse, 100 feet north of plantation road:

A1—0 to 11 inches; black (10YR 2/1) fine sand; weak fine granular structure; very friable; many fine, medium, and coarse roots; many clean sand grains; extremely acid; clear wavy boundary.

B21h—11 to 17 inches; dark reddish brown (5YR 3/2) fine sand; many coarse distinct dark brown (7.5YR 4/2) mottles; weak fine granular structure; friable; slightly brittle; few fine and medium roots; sand grains coated with organic matter; few pockets of uncoated sand grains; extremely acid; gradual wavy boundary.

B22h—17 to 25 inches; dark brown (7.5YR 4/2) fine sand; many coarse distinct dark reddish brown (5YR 3/2) streaks and mottles; weak fine granular structure; friable; slightly brittle; few fine and medium roots; few pockets of uncoated sand grains; extremely acid; gradual wavy boundary.

A'2—25 to 53 inches; brown (7.5YR 5/2) fine sand; many coarse faint dark brown (7.5YR 4/2) and common medium distinct dark reddish brown (5YR 3/2) streaks and mottles; single grained; loose; very strongly acid; abrupt wavy boundary.

B'h—53 to 70 inches; dark reddish brown (5YR 3/2) fine sand; common medium distinct reddish brown (5YR 4/4), reddish gray (5YR 5/2), and dusky red (2.5YR 3/2) mottles; massive; very friable; slightly brittle; many coarse dusky red (2.5YR 3/2) concretions; strongly acid; clear wavy boundary.

C—70 to 80 inches; grayish brown (10YR 5/2) fine sand; many medium distinct dark reddish brown (5YR 3/3) and dark brown (7.5YR 4/2) mottles; single grained; loose; common medium dusky red (2.5YR 3/2) concretions; medium acid.

Soil texture is sand or fine sand to a depth of more than 72 inches. Reaction is extremely acid to strongly acid in about the upper 25 inches, and is very strongly acid to slightly acid below about 25 inches.

The A1 or Ap horizon is 10 to 16 inches thick. It is black or very dark gray. Few to many uncoated sand grains are in this horizon and give the soil a salt-and-pepper appearance when it is dry. The A2 horizon, where present, is 2 to 5 inches thick, and it is light gray, gray, or dark gray.

The Bh horizon is 8 to 49 inches thick. It is dark reddish brown, very dark brown, dark brown, or black. Most sand grains are coated with organic matter. Mottles that have a stronger chroma are in some pedons. Tongues or pockets or tongues and pockets of grayish sand occur in some pedons. The Bh horizon is within 20 inches of the surface.

The A'2 horizon is 9 to 30 inches thick. It is dark gray, grayish brown, brown, pale brown, or dark grayish brown.

The B'h horizon is 12 to 29 inches thick. It is dark brown, very dark brown, or dark reddish brown. Some pedons do not have an A'2 horizon and a B'h horizon.

The C horizon is pale brown, grayish brown, very dark gray, light brownish gray, or light gray with mottles in shades of yellow, brown, and red.

Santee series

The Santee series consists of very poorly drained, slowly permeable soils that formed in clayey Coastal

Plain sediment. These nearly level soils are in broad, depressional areas and drainageways. They are saturated with water for about 6 months each year and are frequently flooded. Slopes are generally less than 1 percent.

Santee soils are geographically associated with Argent, Eulonia, Okeeteee, and Yonges soils. Argent soils are in broad, low areas, have a thinner, dark colored surface layer than the Santee soils, and are poorly drained. Eulonia soils are on the higher ridges and are moderately well drained. Okeetee soils are on the low ridges, which are only a few inches higher than the Argent soils, and are somewhat poorly drained. Yonges soils occupy positions similar to the Argent soils but have less than 35 percent clay in the upper 20 inches of the B horizon.

Typical pedon of Santee fine sandy loam, forested, 2.3 miles south of Hardeeville, 2,900 feet east of U.S. Highway 15:

A1—0 to 7 inches; black (10YR 2/1) fine sandy loam; common fine distinct grayish brown mottles; moderate fine granular structure; friable; many fine and medium roots; strongly acid; clear smooth boundary.

B21tg—7 to 16 inches; black (10YR 2/1) clay; weak medium subangular blocky structure; sticky, plastic; patchy clay films on faces of peds; common fine roots; neutral; clear smooth boundary.

B22tg—16 to 40 inches; dark gray (5Y 4/1) clay loam; few medium distinct very dark gray (10YR 3/1) and few fine faint olive brown mottles; weak medium subangular blocky structure; sticky, plastic; patchy clay films on faces of peds; common fine roots; many fine lenses of light gray fine sand in the upper part diminishing to few in the lower part; mildly alkaline; clear smooth boundary.

B3g—40 to 53 inches; gray (10YR 6/1) sandy clay loam; many medium distinct light olive brown (2.5Y 5/4) and common medium distinct light yellowish brown (2.5Y 6/4) mottles; weak medium subangular blocky structure; slightly sticky, slightly plastic; few fine lenses of light gray fine sand; few fine white secondary lime concretions and accumulations; few fine flakes of mica; mildly alkaline; clear smooth boundary.

C1g—53 to 68 inches; light olive gray (5Y 6/2) sandy clay loam; few medium faint olive (5Y 5/3) mottles; massive; friable; few fine lenses of light gray fine sand; few fine secondary lime concretions and accumulations; few flakes of mica; mildly alkaline; clear smooth boundary.

C2g—68 to 84 inches; light olive gray (5Y 6/2) fine sandy loam; common medium faint olive (5Y 5/3) mottles; massive; friable; common fine flakes of mica; mildly alkaline.

The thickness of the solum ranges from 53 to 65 inches. The A horizon is strongly acid to neutral, the B2tg horizon is medium acid to mildly alkaline, and the B3g and Cg horizons are slightly acid to moderately alkaline. Base saturation in all horizons is more than 50 percent.

The A horizon is 4 to 10 inches thick. It is black or very dark gray fine sandy loam, loam, or clay loam.

The B1 horizon, where present, is 4 to 8 inches thick. It is black or very dark gray sandy clay loam or clay loam.

The Btg horizon is 33 to 58 inches thick. It is black, very dark gray, or dark gray in the upper part and light gray, gray, or dark gray in the lower part. Few to many fine or medium mottles in shades of gray and brown are throughout the horizon. It is clay loam, sandy clay, or clay.

The B3g horizon, where present, is 9 to 24 inches thick. It is gray or light gray sandy clay loam or clay loam. Few to many fine or medium greenish gray, gray, grayish brown, light olive brown, and olive mottles are throughout the horizon.

The Cg horizon, to a depth of about 80 inches, is light gray, light olive gray, olive gray, or greenish gray. It is sand, sandy loam, fine sandy loam, sandy clay loam, or clay.

Seabrook series

The Seabrook series consists of moderately well drained, rapidly permeable soils that formed in thick sandy Coastal Plain sediment. These nearly level soils are on uplands. The water table is within 2 to 4 feet of the surface for about 4 months during most years. Slopes are generally less than 1 percent but range up to 2 percent along drainageways.

Seabrook soils are geographically associated with the Murad, Polawana, Ridgeland, Seewee, and Wando soils. Murad soils are on low uplands, are somewhat poorly drained, and have a Bt horizon that is 40 to 60 inches below the surface. Polawana soils are in depressions and drainageways, are very poorly drained, and have a thick, dark colored surface layer. Ridgeland soils are on low uplands, are somewhat poorly drained, and have a Bh horizon that is at a depth of less than 18 inches. Seewee soils are on low uplands, are somewhat poorly drained, and have a Bh horizon that is at a depth of 18 to 30 inches. Wando soils are on the higher ridges and are excessively drained.

Typical pedon of Seabrook fine sand, 6.5 miles southwest of Beaufort, 1.5 miles west of South Carolina Secondary Highway 45, 1,200 feet north of farm road, 50 feet east of hedgerow:

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) fine sand; moderate fine granular structure; very friable; many fine roots; medium acid; clear smooth boundary.

C1—10 to 28 inches; light yellowish brown (10YR 6/4) fine sand; weak fine granular structure; very friable; few fine roots; few fine pores; few fine black minerals; medium acid; clear smooth boundary.

C2—28 to 35 inches; light yellowish brown (10YR 6/4) fine sand; common medium distinct strong brown (7.5YR 5/6), common medium faint yellowish brown (10YR 5/6), and a few fine faint light brownish gray mottles; weak fine subangular blocky structure; very friable; few fine roots; many very fine pores; many reddish brown (5YR 4/3) concretions; common fine black minerals; very strongly acid; gradual smooth boundary.

C3—35 to 50 inches; pale brown (10YR 6/3) fine sand; common medium faint yellowish brown (10YR 5/6) and light brownish gray (10YR 6/2) mottles; weak fine granular structure; very friable; few fine roots; common fine pores; common fine black minerals; very strongly acid; gradual wavy boundary.

C4—50 to 72 inches; light yellowish brown (10YR 6/4) fine sand; common medium faint light brownish gray (10YR 6/2) mottles; few fine distinct dark brown stains along old root channels; single grained; loose; common fine black minerals; medium acid; gradual wavy boundary.

C5—72 to 80 inches; light gray (2.5Y 7/2) fine sand; few fine prominent yellowish red mottles; single grained; loose; common fine black minerals; medium acid.

The thickness of the sand is more than 72 inches. Reaction is very strongly acid to medium acid in the A horizon, and it is very strongly acid to slightly acid in the C horizon. Brownish concretions are few to many in most pedons. Silt and clay in the control section range from 5 to 20 percent.

The A horizon is 10 to 19 inches thick. The A1 or Ap horizon is 6 to 10 inches thick. It is very dark grayish brown, dark grayish brown, grayish brown, or brown. The A12 horizon, where present, is 6 to 9 inches of brown fine sand.

The upper part of the C horizon is brown, yellowish brown, pale brown, light yellowish brown, brownish yellow, or pale olive. The lower part of the C horizon is grayish brown, light brownish gray, light olive

gray, light gray, or white. Mottles in shades of red, brown, yellow, and gray are few to many throughout the C horizon. Gray mottles increase with depth. Texture commonly is fine sand but includes loamy fine sand, loamy sand, and sand. Thin layers of brownish coated sand grains are below a depth of 40 inches in some pedons.

Seewee series

The Seewee series consists of somewhat poorly drained, moderately to moderately rapidly permeable soils that formed in thick sandy Coastal Plain sediment. These nearly level soils are on low ridges that are 5 to 25 feet above sea level. The water table is 1 to 2 feet below the surface for about 5 months during most years. Slopes are generally less than 1 percent but range up to 2 percent.

Seewee soils are geographically associated with the Baratari, Polawana, Ridgeland, Rosedhu, Seabrook, and Wando soils. Baratari soils are in nearly level areas, are poorly drained, and have a Bh horizon that is within 30 inches of the surface. Polawana soils are in depressions and drainageways, are very poorly drained, and have a thick, dark colored surface layer. Ridgeland soils are on low uplands, are somewhat poorly drained, and have a Bh horizon that is at a depth of less than 18 inches. Rosedhu soils are in low, nearly level areas, are very poorly drained, and have a Bh horizon that is within 20 inches of the surface. Seabrook soils are on the intermediate ridges, are moderately well drained, and do not have a Bh horizon. Wando soils are on the higher ridges and are excessively drained.

Typical pedon of Seewee fine sand, 1 mile southeast of Frogmore, 0.7 mile south of the intersection of South Carolina Secondary Highway 470 and U.S. Highway 21, 200 feet east of South Carolina Secondary Highway 470:

Ap—0 to 8 inches; very dark brown (10YR 2/2) fine sand; weak fine granular structure; very friable; many fine roots; medium acid; clear smooth boundary.

A12—8 to 14 inches; dark grayish brown (10YR 4/2) fine sand; weak fine granular structure; very friable; few fine roots; most sand grains coated or partially coated; medium acid; clear smooth boundary.

A2—14 to 25 inches; pale brown (10YR 6/3) fine sand; common medium distinct light gray (10YR 7/2) and few fine distinct brownish yellow mottles; single grained; loose; some sand grains partially coated; few fine and medium iron concretions; medium acid; clear smooth boundary.

B1h—25 to 30 inches; dark brown (7.5YR 4/4) fine sand; single grained; very friable; few fine concretions; some sand grains coated with organic matter; strongly acid; clear wavy boundary.

B21h—30 to 35 inches; dark reddish brown (5YR 2/2) and dark brown (7.5YR 4/4) fine sand; massive; slightly brittle and compact in dark reddish brown part and loose in dark brown part; sand grains coated with organic matter; strongly acid; clear irregular boundary.

B22h—35 to 45 inches; dark reddish brown (5YR 3/3) fine sand; massive; slightly brittle; slightly cemented; loose when crushed; sand grains coated with organic matter; strongly acid; gradual wavy boundary.

C—45 to 80 inches; brown (10YR 4/3) fine sand; single grained; loose; sand grains coated; medium acid.

The thickness of the sand is more than 80 inches. Reaction is very strongly acid to strongly acid in the A horizon except where limed, and it is strongly acid through medium acid in the Bh and C horizons. Textures are loamy fine sand, fine sand, or sand to a depth of more than 80 inches.

The A horizon is 16 to 28 inches thick. The A1 or Ap horizon is 5 to 14 inches thick. It is very dark brown, very dark grayish brown, dark grayish brown, very dark gray, or dark gray. The A2 horizon is 8 to 22 inches thick. It is brown, pale brown, light yellowish brown, yellowish brown, or light brownish gray. The A3 horizon, where present, is 3 to 12 inches thick. It is pale brown or yellowish brown.

The B1h horizon, where present, is 4 to 8 inches thick. It is very dark brown, dark brown, or very dark grayish brown.

The B2h horizon is 4 to 30 inches thick. It is black, very dark brown, dark brown, very dark grayish brown, or dark reddish brown. The B2h horizon commonly has few to many mottles in shades of gray, yellow, brown, and red.

The C horizon is gray, light gray, grayish brown, light brownish gray, brown, or yellowish brown. The C horizon commonly has few to many mottles in shades of gray, yellow, brown, and red.

Tawcaw series

The Tawcaw series consists of somewhat poorly drained, slowly permeable soils that formed in clayey sediment that washed from the Piedmont and deposited in the Coastal Plain. These nearly level soils are on flood plains. They are subject to common flooding, and the water table is within 1.5 to 2.5 feet of the surface for about 6 months during most years.

Tawcaw soils are geographically associated with the Buncombe and Chastain soils. Buncombe soils are on the higher ridges, are excessively drained, and are sandy throughout. Chastain soils are in low areas and depressions and are poorly drained.

Typical pedon of Tawcaw clay from an area of Tawcaw-Chastain association, 5 miles northwest of Hardeeville, 4,500 feet southwest of the junction of South Carolina Secondary Highway 34 and the Beaufort-Jasper Water Authority Canal, 100 feet north of canal:

A11—0 to 1 inch; dark brown (10YR 4/3) clay; moderate medium granular structure; friable; many fine and medium roots; few fine flakes of mica; strongly acid; clear smooth boundary.

A12—1 to 9 inches; dark brown (7.5YR 4/4) clay; few fine faint reddish brown mottles; weak medium subangular blocky structure; firm; common fine and medium roots; few fine flakes of mica; strongly acid; gradual smooth boundary.

B21—9 to 13 inches; yellowish brown (10YR 5/4) clay; common medium distinct dark reddish brown (5YR 3/3) and reddish brown (5YR 4/3) and a few medium distinct pinkish gray (5YR 6/2) mottles; weak medium subangular blocky structure; firm; common fine and medium roots; few fine flakes of mica; strongly acid; gradual smooth boundary.

B22—13 to 47 inches; light yellowish brown (10YR 6/4) clay loam; many coarse distinct light brownish gray (10YR 6/2) and common medium distinct strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; firm; common fine and medium roots; few fine flakes of mica; strongly acid; gradual smooth boundary.

B3—47 to 80 inches; mottled light gray (10YR 7/2), yellowish brown (10YR 5/6), and brownish yellow (10YR 6/6) clay loam; massive; firm; few fine roots; common fine flakes of mica; few uncoated sand grains; strongly acid.

The thickness of the solum ranges from 40 to more than 72 inches. Reaction is very strongly acid to medium acid throughout. Flakes of mica are few to common.

The A horizon is 8 to 16 inches thick. It is dark grayish brown, dark brown, or dark yellowish brown. Texture is clay, silty clay, silty clay loam, or silt loam.

The B2 horizon is 26 to 40 inches thick. It is dark brown, brown, or yellowish brown and has few to many mottles in shades of gray, brown,

and red to a depth of about 15 inches. Below this, to a depth of about 45 inches, it is yellowish brown, grayish brown, or gray and has few to many mottles in shades of gray, brown, and red. It is clay, silty clay, silty clay loam, or clay loam. Few to common fine flakes of mica are throughout the horizon.

The B3 horizon is 16 to more than 33 inches thick. It is mottled in shades of gray, yellow, brown, and red. Texture commonly is clay loam but includes silty clay loam, sandy clay loam, and loam.

Tomotley series

The Tomotley series consists of deep, poorly drained, moderately slowly permeable soils that formed in loamy Coastal Plain sediment. These nearly level soils are on broad lowlands. They are saturated with water late in winter and early in spring. Slopes are generally less than 1 percent.

Tomotley soils are geographically associated with the Bertie, Bladen, Chisolm, Coosaw, Deloss, Williman, and Yemassee soils. Bertie soils are on the intermediate ridges and are moderately well drained. Bladen and Williman soils occupy positions that are similar to the Tomotley soils. The Bladen soils have a finer textured Bt horizon, however, and the Williman soils have a thicker A horizon than the Tomotley soils. Chisolm soils are on the higher ridges and are well drained. Coosaw and Yemassee soils are on low uplands and are somewhat poorly drained. Deloss soils are on the lower elevations in depressions and drainageways, have a thick, dark colored surface layer, and are very poorly drained.

Typical pedon of Tomotley loamy fine sand in idle field is 1.1 miles east of Dale on South Carolina Secondary Highway 38, 3,540 feet north on farm road, 50 feet east of road:

Ap—0 to 8 inches; very dark gray (10YR 3/1) loamy fine sand; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; clear smooth boundary.

A2—8 to 13 inches; light gray (10YR 6/1) loamy fine sand; common medium distinct dark gray (10YR 4/1) streaks and splotches; weak medium subangular blocky structure; very friable; common fine roots; common fine uncoated sand grains; very strongly acid; clear smooth boundary.

B21tg—13 to 23 inches; gray (10YR 5/1) sandy clay loam; common fine distinct yellowish brown and strong brown and a few fine prominent red mottles; weak medium subangular blocky structure; friable; thin patchy clay films in old root channels and on faces of some peds; common fine roots; few fine lenses of light gray loamy fine sand; very strongly acid; gradual wavy boundary.

B22tg—23 to 44 inches; gray (10YR 6/1) sandy clay loam; common medium prominent red (10R 4/8), common medium distinct yellowish brown (10YR 5/6), and common fine distinct strong brown mottles; moderate medium subangular blocky structure; friable; thin patchy clay films on faces of peds; few fine lenses of light gray loamy fine sand; very strongly acid; gradual wavy boundary.

B23tg—44 to 52 inches; light gray (5Y 7/1) sandy clay; common medium prominent red (2.5YR 4/6) and common fine distinct strong brown and yellowish brown mottles; weak medium subangular blocky structure; firm; thin patchy clay films on faces of some peds; few fine lenses of light gray loamy fine sand; few fine flakes of mica; very strongly acid; gradual wavy boundary.

B3g—52 to 59 inches; light gray (5Y 7/1) fine sandy loam that has coarse pockets of sandy clay loam; common medium distinct strong brown (7.5YR 5/8), common medium faint pale olive (5Y 6/3), and few fine prominent yellowish red mottles; massive; friable; few fine flakes of mica; very strongly acid; gradual wavy boundary.

Cg—59 to 80 inches; light gray (2.5Y 7/2) loamy fine sand; common medium distinct strong brown (7.5YR 5/8) and common medium faint light yellowish brown (2.5Y 6/4) mottles; massive; friable; few fine flakes of mica; very strongly acid.

The thickness of the solum ranges from 50 to more than 80 inches. Reaction is extremely acid to strongly acid to a depth of about 50 inches. Below this depth it ranges from extremely acid to medium acid. Some pedons contain a few to common ironstone pebbles and some pedons have a weakly stained A2 horizon. Few to common fine flakes of mica and fine black minerals are in the lower part of the B and C horizons in some pedons.

The A horizon is 8 to 19 inches thick. The A1 or Ap horizon is 5 to 11 inches thick. It is black, very dark gray, dark gray, or dark grayish brown. Where the A1 or Ap horizon is black or very dark gray, it is less than 10 inches thick. The A2 horizon is 3 to 11 inches thick. It is dark gray, dark grayish brown, grayish brown, gray, light brownish gray, or light gray. Some pedons have few to common fine or medium gray, yellow, and brown mottles in the A2 horizon. Texture of the A horizon is loamy sand, loamy fine sand, and fine sandy loam.

The B1 horizon, where present, is 4 to 8 inches thick. It is dark gray, gray, or light brownish gray. Few to many fine or medium yellow, brown, and red mottles are throughout the horizon. Texture is fine sandy loam or sandy loam.

The B2tg horizon is 18 to 70 inches thick. It is gray, light gray, light brownish gray, or light olive gray. Few to many fine or medium gray, olive, yellow, brown, and red mottles are throughout the horizon. Texture is commonly sandy clay loam but includes clay loam and fine sandy loam. Some pedons are sandy clay below a depth of about 40 inches. The upper 20 inches of the B horizon has 18 to 35 percent clay.

The B3g horizon is 6 to 51 inches thick. It is gray, grayish brown, light brownish gray, light olive gray, light gray, or pale olive. Few to many fine or medium gray, olive, yellow, brown, and red mottles are throughout the horizon. Texture is fine sandy loam, sandy clay loam, or sandy clay. Pockets and strata of contrasting textures are in some pedons.

The Cg horizon to a depth of about 80 inches is light gray, light brownish gray, pale olive, or greenish gray and has few to many mottles. Texture is loamy fine sand, fine sandy loam, sandy clay loam, or sandy clay. Pockets and strata of contrasting textures commonly occur in this horizon.

Wahee series

The Wahee series consists of deep, somewhat poorly drained, slowly permeable soils that formed in thick loamy and clayey Coastal Plain sediment. These nearly level soils are on broad, low uplands. The water table is at or near the surface for about 4 months during most years. Slopes are generally less than 1 percent but range up to 2 percent along drainageways.

Wahee soils are geographically associated with the Bladen, Cape Fear, Eulonia, and Nemours soils. Bladen soils are in low areas and are poorly drained. Cape Fear soils are in depressions and poorly defined drainageways, are very poorly drained, and have a thick, dark colored surface layer. Eulonia soils are on the higher ridges, are moderately well drained, and have 35 to 45 percent clay in the upper 20 inches of the B horizon. Nemours soils are on the higher ridges, are moderately well drained, and have more than 45 percent clay in the upper 20 inches of the B horizon.

Typical pedon of Wahee fine sandy loam, 4 miles northeast of Gardens Corner, 600 feet south of the junction of South Carolina Secondary Highway 33 and U.S.

Highway 17, 3,750 feet east of U.S. Highway 17, 50 feet north of farm road:

A1—0 to 6 inches; very dark gray (10YR 3/1) fine sandy loam; moderate medium granular structure; very friable; many fine and medium roots; very strongly acid; clear smooth boundary.

A2—6 to 13 inches; pale olive (5Y 6/3) fine sandy loam; common fine faint light brownish gray mottles; weak medium subangular blocky structure; very friable; common fine and medium roots; many fine holes and pores; strongly acid; clear wavy boundary.

B21t—13 to 16 inches; yellowish brown (10YR 5/4) clay loam; common fine distinct red and light gray and common fine faint light yellowish brown mottles; moderate medium subangular blocky structure; firm; thin patchy clay films on faces of peds; common fine roots; few fine holes; many fine pores; very strongly acid; clear wavy boundary.

B22tg—16 to 21 inches; light brownish gray (10YR 6/2) clay; common medium prominent red (10R 4/6) and few medium distinct strong brown (7.5YR 5/6) mottles; strong medium subangular blocky structure; firm, sticky, plastic; thick clay films on faces of peds; few fine roots; common fine and medium pores; very strongly acid; clear wavy boundary.

B23tg—21 to 40 inches; gray (10YR 6/1) sandy clay; many medium prominent red (10R 4/6) and few fine distinct strong brown mottles; strong medium subangular blocky structure; firm, sticky, plastic; thick clay films on faces of peds; few fine roots; few fine and medium pores; very strongly acid; gradual wavy boundary.

B3g—40 to 62 inches; gray (5Y 6/1) sandy clay loam; many medium prominent reddish brown (2.5YR 4/4) and many medium distinct strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; friable; few fine pores; few medium lenses of light gray loamy fine sand; very strongly acid.

The thickness of the solum ranges from 50 to 80 inches. Reaction is very strongly acid or strongly acid throughout.

The A horizon is 4 to 19 inches thick. The A1 or Ap horizon is 4 to 8 inches thick. It is very dark gray, dark gray, dark grayish brown, or grayish brown fine sandy loam or loamy fine sand. The A2 horizon, where present, is 5 to 12 inches thick. It is light brownish gray, pale olive, pale brown, very pale brown, or light yellowish brown fine sandy loam or loamy fine sand.

The B1 horizon, where present, is 2 to 5 inches thick. It is pale brown, light olive brown, light yellowish brown, brownish yellow, or strong brown. Texture is fine sandy loam, sandy clay loam, or clay loam.

The B2t horizon is 16 to 37 inches thick. If there is no B1 horizon, the upper 2 to 5 inches of the B2t horizon is yellowish brown or brownish yellow and have few to many mottles in shades of gray, yellow, brown, and red. Below this the B2t horizon is gray, light brownish gray, or light olive gray and has few to many mottles in shades of gray, yellow, brown, and red. Texture is clay loam, sandy clay, or clay.

The B3g horizon is 14 to 30 inches thick. It is gray, light gray, or light brownish gray and has few to many mottles in shades of yellow, brown, and red. Texture is sandy clay, sandy clay loam, or fine sandy loam.

Wando series

The Wando series consists of excessively drained, rapidly permeable soils that formed in thick sandy Coastal Plain sediment. These nearly level and gently sloping soils are on uplands of the lower marine terraces. The water table commonly is below a depth of 6 feet. Slopes adjacent to the drainageways are generally less than 1 percent but range up to 6 percent.

Wando soils are geographically associated with the Polawana, Ridgeland, Seabrook, and Seewee soils. Polawana soils are in depressions and drainageways, are very poorly drained, and have a thick, dark colored surface layer. Ridgeland soils are on low uplands, are somewhat poorly drained, and have a Bh horizon that is at a depth of less than 18 inches. Seabrook soils are on the intermediate ridges and are moderately well drained. Seewee soils are on low ridges, are somewhat poorly drained, and have a Bh horizon that is at a depth of 18 to 30 inches.

Typical pedon of Wando fine sand, 0 to 6 percent slopes, 8 miles southeast of Beaufort on St. Helena Island, 1,000 feet north of the junction of South Carolina Secondary Highways 117 and 77, 100 feet east of South Carolina Secondary Highway 77:

Ap—0 to 9 inches; dark brown (10YR 4/3) fine sand; weak fine granular structure; very friable; common fine roots; slightly acid; clear smooth boundary.

C1—9 to 19 inches; brown (10YR 5/3) fine sand; single grained; loose; common fine roots; medium acid; gradual smooth boundary.

C2—19 to 52 inches; strong brown (7.5YR 5/6) fine sand; single grained; loose; few fine roots; medium acid; gradual smooth boundary.

C3—52 to 60 inches; pale yellow (2.5Y 7/4) fine sand; few fine distinct yellowish brown mottles; single grained; loose; few dark brown concretions, 1/4 to 1 inch in diameter; medium acid; gradual smooth boundary.

C4—60 to 85 inches; pale yellow (2.5Y 7/4) fine sand; few fine prominent yellowish red mottles; single grained; loose; medium acid.

Few to common concretions, 1/4 to 1 inch in diameter and dark brown, soft to firm, iron bodies are in some pedons. Thickness of the sand exceeds 80 inches. Reaction is medium acid to neutral throughout the profile.

The A horizon is 5 to 12 inches thick. It is dark grayish brown, dark brown, or brown. Texture is commonly fine sand but includes loamy fine sand and loamy sand.

The C horizon to a depth of about 50 inches is brown, strong brown, yellowish brown, brownish yellow, yellow, or light yellowish brown. Below a depth of about 50 inches the soil becomes paler with increasing depth and is commonly yellow, pale yellow, or very pale brown. A few red, yellow, brown, or gray mottles are in some pedons at a depth below about 50 inches. Texture of the C horizon commonly is fine sand but includes loamy fine sand. In a few pedons the texture is sand at a depth below about 60 inches.

Williman series

The Williman series consists of deep, poorly drained, moderately permeable soils that formed in loamy Coastal Plain sediment. These nearly level soils are in low areas, in slight depressions, and along some drainageways. The water table is at or near the surface for about 5 months during most years. Slopes are generally less than 1 percent but range up to 2 percent along drainageways.

Williman soils are geographically associated with the Coosaw, Deloss, Murad, Tomotley, and Yemassee soils. Coosaw soils are on low and intermediate ridges and are somewhat poorly drained. Deloss soils are in low areas, depressions, and drainageways; are very poorly drained; and have a thick, dark colored surface layer. Murad soils are on low and intermediate ridges, are somewhat poorly drained, and have an A horizon that is more than 40 inches thick. Tomotley soils are in nearly level, low areas, are poorly drained, and have an A horizon that is less than 20 inches thick. Yemassee soils are on low ridges and are somewhat poorly drained.

Typical pedon of Williman loamy fine sand, 13 miles northwest of Beaufort, 3.6 miles south of Sheldon, 2,400 feet northwest of railroad crossing at Coosaw, 850 feet north of Seaboard Coastline Railroad, 175 feet west of farm road on edge of woods:

A1—0 to 5 inches; very dark gray (10YR 3/1) loamy fine sand; moderate medium granular structure; very friable; many fine and medium roots; many fine uncoated sand grains; very strongly acid; clear smooth boundary.

A21—5 to 15 inches; dark grayish brown (10YR 4/2) loamy fine sand; common medium faint grayish brown (10YR 5/2) and few fine distinct light brownish gray mottles; weak medium subangular blocky structure; very friable; common fine and medium roots; few fine pores; very strongly acid; gradual smooth boundary.

A22—15 to 26 inches; light brownish gray (10YR 6/2) loamy fine sand; many coarse faint light yellowish brown (2.5Y 6/4), common fine distinct strong brown, and few fine prominent yellowish red mottles; weak medium subangular blocky structure; very friable; few fine and medium roots; few fine pores; common fine uncoated sand grains; very strongly acid; gradual wavy boundary.

B1g—26 to 30 inches; light brownish gray (10YR 6/2) fine sandy loam; common medium distinct strong brown (7.5YR 5/6) and light yellowish brown (2.5YR 6/4), and common fine prominent yellowish red mottles; weak medium subangular blocky structure; friable; few fine and medium roots; few fine pores; common fine uncoated sand grains; very strongly acid; clear wavy boundary.

B21tg—30 to 47 inches; gray (10YR 5/1) sandy clay loam; common medium distinct strong brown (7.5YR 5/6) and brownish yellow (10YR 6/8), and common fine prominent yellowish red mottles; weak medium subangular blocky structure; friable; few fine and medium roots; thin patchy clay films in old root channels and on faces of peds; some peds bridged with light brownish gray loamy fine sand; few medium streaks of light gray fine sand; very strongly acid; gradual wavy boundary.

B22tg—47 to 59 inches; light brownish gray (10YR 6/2) sandy clay loam; many medium faint pale olive (5Y 6/3), common fine distinct strong brown, and few fine prominent yellowish red mottles; weak medium subangular blocky structure; friable; few fine roots; thin patchy clay films in old root channels and on faces of some peds; few fine streaks of light gray fine sand; few fine flakes of mica; very strongly acid; clear wavy boundary.

B31g—59 to 73 inches; light brownish gray (10YR 6/2) sandy clay loam; many medium prominent yellowish red (5YR 4/8), common medium distinct yellowish brown (10YR 5/6), and common medium faint pale olive (5Y 6/4) mottles; massive; friable; common dark reddish brown pebbles of ironstone, 1 to 2 cm in size; few fine streaks of light gray fine sand; few fine flakes of mica; very strongly acid; clear wavy boundary.

B32g—73 to 80 inches; light brownish gray (2.5Y 6/2) sandy clay loam; common medium distinct strong brown (7.5YR 5/6), brownish yellow (10YR 6/6), and greenish gray (5GY 6/1), and few medium prominent yellowish red (5YR 4/6) mottles; massive; friable; few fine streaks of light gray fine sand; few fine flakes of mica; very strongly acid; gradual wavy boundary.

Cg—80 to 90 inches; light brownish gray (2.5Y 6/2) fine sandy loam; many coarse distinct greenish gray (5GY 6/1) and brownish yellow (10YR 6/6), and few fine yellowish red mottles; massive; friable; pockets of loamy fine sand and sandy clay loam; weakly stratified; few fine flakes of mica; very strongly acid.

The thickness of the solum ranges from 55 to more than 90 inches. Reaction is extremely acid to strongly acid in the A and B horizons, and it is very strongly acid to neutral in the C horizon.

The A horizon is 22 to 38 inches thick. The A1 or Ap horizon is 5 to 13 inches thick. It is dark gray, very dark gray, or black. Where values are less than 3.5, thickness is less than 10 inches. The A2 horizon is 9 to 32 inches thick. It is dark grayish brown, gray, grayish brown, light brownish gray, light gray, or light yellowish brown. Mottles in shades of gray, yellow, and brown are in some pedons. Texture of the A horizon is loamy fine sand, loamy sand, or fine sand.

The B1g horizon, where present, is 3 to 6 inches thick. It is gray, grayish brown, or light brownish gray and has few to many mottles in shades of yellow, brown, and red. Texture is fine sandy loam or sandy loam.

The B2tg horizon is 8 to 42 inches thick. The upper part is gray, grayish brown, or light brownish gray and has few to many mottles in shades of gray, yellow, brown, and red. The lower part is gray, light gray, light brownish gray, or pale olive and has few to many mottles in shades of gray, yellow, brown, and red. Texture of the B2tg horizon commonly is sandy clay loam but includes fine sandy loam and sandy loam.

The B3g horizon is 4 to 38 inches thick. It has dominant gray colors and has common to many mottles in shades of gray, olive, yellow, brown, and red. Texture is fine sandy loam or sandy clay loam.

The C horizon is light gray, light brownish gray, light olive gray, greenish gray, very pale brown, or pale brown. It commonly is loamy fine sand but includes sandy clay loam, fine sandy loam, loamy sand, fine sand, and sand.

Yemassee series

The Yemassee series consists of deep, somewhat poorly drained, moderately permeable soils that formed in thick loamy Coastal Plain sediment on the lower marine terraces. These nearly level soils are on low ridges. The water table is within 1 to 1.5 feet of the surface for about 4 months during most years. Slopes are generally less than 1 percent.

Yemassee soils are geographically associated with the Bertie, Coosaw, Deloss, Tomotley, and Williman soils. Bertie soils are on higher ridges and are moderately well drained. Coosaw soils are on intermediate ridges, are somewhat poorly drained, and have an A horizon that is 20 to 40 inches thick. Deloss soils are in depressions and drainageways, are very poorly drained and have a thick, dark colored surface layer. Tomotley soils are in low areas and are poorly drained. Williman soils are in low areas, are poorly drained, and have an A horizon that is 20 to 40 inches thick.

Typical pedon of Yemassee loamy fine sand, 2.5 miles north of Dale, 1,750 feet north of the junction of South Carolina Secondary Highway 238 and South Carolina Secondary Highway 43, 100 feet east of South Carolina Secondary Highway 43:

Ap—0 to 8 inches; dark gray (10YR 4/1) loamy fine sand; weak medium granular structure; very friable; many fine and medium roots; strongly acid; clear smooth boundary.

A2—8 to 15 inches; light yellowish brown (2.5Y 6/4) loamy fine sand; few fine distinct yellowish brown and few fine faint light brownish gray mottles; weak medium subangular blocky structure; very friable; common fine and medium roots; common fine pores; strongly acid; clear wavy boundary.

B1—15 to 19 inches; pale brown (10YR 6/3) fine sandy loam; common medium distinct yellowish brown (10YR 5/6), common medium faint light brownish gray (10YR 6/2), and few medium prominent yellowish red (5YR 4/6) mottles; weak medium subangular blocky structure; friable; few fine and medium roots; common fine pores; strongly acid; clear wavy boundary.

B21tg—19 to 35 inches; light brownish gray (10YR 6/2) sandy clay loam; common medium distinct yellowish brown (10YR 5/4), few medium prominent red (2.5YR 4/6), and common fine distinct strong brown mottles; weak medium subangular blocky structure; friable; few fine roots; common fine pores; thin patchy clay films in old root channels and on faces of some peds; few thin vertical streaks of light gray fine sand; very strongly acid; gradual wavy boundary.

B22tg—35 to 48 inches; light brownish gray (10YR 6/2) sandy clay loam; many medium prominent red (2.5YR 4/6), common medium distinct strong brown (7.5YR 5/6), and common fine distinct pale olive mottles; weak medium subangular blocky structure; friable; thin patchy clay films in old root channels and on faces of some peds; few fine roots; few fine pores; few thin vertical streaks of light gray fine sand; extremely acid; gradual wavy boundary.

B3g—48 to 65 inches; light brownish gray (10YR 6/2) sandy clay loam with pockets of fine sandy loam; many coarse distinct strong brown (7.5YR 5/8), few medium prominent yellowish red (5YR 4/6), and common fine distinct pale olive mottles; weak coarse subangular blocky structure; friable; common vertical streaks of light gray fine sand; few fine flakes of mica; few fine black minerals; extremely acid; gradual wavy boundary.

Cg—65 to 90 inches; light brownish gray (2.5Y 6/2) fine sandy loam with pockets and strata of sandy clay loam and loamy fine sand; common medium distinct yellow (10YR 6/6) and yellowish brown (10YR 5/6), and few fine prominent yellowish red mottles; massive; friable; few fine flakes of mica; few fine black minerals; extremely acid.

The thickness of the solum ranges from 50 to more than 85 inches. Reaction is extremely acid to strongly acid except where the surface layer has been limed.

The A horizon is 8 to 18 inches thick. The A1 or Ap horizon is 5 to 8 inches thick. It is black, very dark gray, dark gray, dark grayish brown, or grayish brown. The A2 horizon, where present, is 4 to 11 inches thick. It is light brownish gray, brown, pale brown, light yellowish brown, very pale brown, or pale yellow. The A horizon is commonly loamy fine sand but includes fine sandy loam, sandy loam, and loamy sand.

The B1 horizon, where present, is 3 to 8 inches thick. It is pale brown, yellowish brown, light yellowish brown, or brownish yellow and has few to common mottles in shades of gray, yellow, brown, and red. Texture is fine sandy loam or sandy loam.

The B2tg horizon is 17 to more than 50 inches thick. Where no B1 horizon is present, the B2tg horizon has a thin layer with chroma that is greater than 2, and it has gray mottles. Below this layer, or where a B1 horizon is present, it is light brownish gray, light olive gray, light gray, or grayish brown and has few to many mottles in shades of gray, olive, yellow, brown, and red. Texture commonly is sandy clay loam but includes clay loam and fine sandy loam.

The B3g horizon is 11 to 34 inches thick. It is light brownish gray, light olive gray, or light gray and has common to many mottles in shades of gray, yellow, brown, and red. Texture is sandy clay loam or fine sandy loam with pockets and strata of coarser textures.

The Cg horizon is a light brownish gray, light olive gray, light gray, or gray and has few to many mottles in shades of gray, yellow, brown, and red, or it is variegated with these colors. Texture commonly is fine sandy loam or loamy fine sand but includes clay, sandy loam, and fine sand. Pockets and strata of contrasting textures are common in this horizon.

Yonges series

The Yonges series consists of deep, poorly drained, moderately slowly permeable soils that formed in thick, loamy Coastal Plain sediment. These nearly level soils are in low areas. The water table is at or near the surface for about 6 months during most years.

Yonges soils are geographically associated with the Argent, Bladen, Okeetee, and Santee soils. Argent soils are in low lying areas, are poorly drained, and have more clay in the B horizon than the Yonges soils. Bladen soils are in low, flat areas, are poorly drained, have more clay in the B horizon than the Yonges soils, and have base saturation less than 35 percent at a depth of about 50 inches below the top of the B horizon. Okeetee soils are on low ridges and are somewhat poorly drained. Santee soils are in low areas and poorly defined drainageways, are very poorly drained, and have a thick, dark colored surface layer.

Typical pedon of Yonges loamy fine sand, 2 miles northeast of Burton, 0.66 mile west of the intersection of South Carolina Highway 116 and U.S. Highway 21, 350 feet north of South Carolina Highway 116, 50 feet west of farm road:

Ap—0 to 9 inches; dark gray (10YR 4/1) loamy fine sand; weak medium granular structure; very friable; common fine roots; few fine holes and pores; neutral; clear smooth boundary.

B1g—9 to 18 inches; dark gray (10YR 4/1) fine sandy loam; few fine distinct strong brown and olive brown mottles; weak medium subangular blocky structure; very friable; faint patchy clay films on faces of some peds; common fine roots; few fine holes and pores; neutral; gradual wavy boundary.

B21tg—18 to 35 inches; gray (10YR 5/1) sandy clay loam; many medium distinct yellowish brown (10YR 5/8) and common medium distinct brown (10YR 4/3) mottles; weak medium subangular blocky structure; firm; patchy clay films on faces of peds; common medium hard ironstone pebbles; mildly alkaline; gradual wavy boundary.

B22tg—35 to 60 inches; gray (5Y 6/1) sandy clay loam; many coarse distinct yellowish brown (10YR 5/6) mottles; weak coarse subangular blocky structure; firm; faint patchy clay films on faces of some peds; common medium hard ironstone pebbles; mildly alkaline; gradual wavy boundary.

B31g—60 to 72 inches; light olive gray (5Y 6/2) sandy clay loam; common medium distinct yellowish brown (10YR 5/6) mottles; massive; firm; few faint patchy clay films on faces of some peds; common coarse pockets of dark gray fine sandy loam; neutral; gradual wavy boundary.

B32g—72 to 80 inches; light olive gray (5Y 6/2) sandy clay loam; common medium faint gray (5Y 5/1) and a few fine distinct dark brown mottles; massive; friable; common medium lenses of white fine sand; common coarse pockets of dark gray (5Y 4/1) sandy clay loam; neutral.

The thickness of the solum ranges from 40 to more than 70 inches. Reaction is strongly acid to neutral in the A horizon and the upper part of the B horizon, and it is slightly acid to mildly alkaline in the lower part of the B horizon.

The A horizon is 9 to 19 inches thick. The A1 or Ap horizon is 5 to 15 inches thick. It is dark gray, dark grayish brown, very dark gray, or black. Where the A1 or Ap horizon is very dark gray or black, it is less than 7 inches thick. The A2 horizon, where present, is 4 to 15 inches thick. It is light brownish gray, grayish brown, or dark grayish brown. Texture of the A horizon is loamy fine sand or fine sandy loam.

The B1 horizon, where present, is 3 to 12 inches thick. It is dark gray, gray, or light brownish gray. Few to many mottles in shades of yellow and brown are in most pedons. Texture is fine sandy loam or sandy clay loam.

The B2tg horizon is 20 to 50 inches thick. It is gray, light gray, light brownish gray, or dark gray and has common to many mottles in shades of yellow, brown, and red. Texture commonly is sandy clay loam but includes clay loam.

The B3g horizon is 10 to 25 inches thick. It is gray, light gray, light brownish gray, or light olive gray and has common to many mottles in shades of olive, yellow, brown, and red. Texture is fine sandy loam or sandy clay loam.

Classification of the soils

The system of soil classification currently used was adopted by the National Cooperative Soil Survey in 1965. Readers interested in further details about the system should refer to "Soil taxonomy" (*6*).

The system of classification has six categories. Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. In this system the classification is based on the different soil properties that can be observed in the field or those that can be inferred either from other properties that are observable in the field or from the combined data of soil science and other disciplines. The properties selected for the higher categories are the result of soil genesis or of factors that affect soil genesis. In table 20, the soils of the survey area are classified according to the system. Categories of the system are discussed in the following paragraphs.

ORDER. Ten soil orders are recognized as classes in the system. The properties used to differentiate among orders are those that reflect the kind and degree of dominant soil-forming processes that have taken place. Each order is identified by a word ending in *sol*. An example is Entisol.

SUBORDER. Each order is divided into suborders based primarily on properties that influence soil genesis and are important to plant growth or that are selected to reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Aquent (*Aqu*, meaning water, plus *ent*, from Entisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of expression of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and a prefix that suggests something about the properties of the soil. An example is Haplaquents (*Hapl*, meaning simple horizons, plus *aquent*, the suborder of Entisols that have an aquic moisture regime).

SUBGROUP. Each great group may be divided into three subgroups: the central (typic) concept of the great groups, which is not necessarily the most extensive subgroup; the intergrades, or transitional forms to other orders, suborders, or great groups; and the extragrades, which have some properties that are representative of the great groups but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that is thought to typify the great group. An example is Typic Haplaquents.

FAMILY. Families are established within a subgroup on the basis of similar physical and chemical properties that affect management. Among the properties considered in horizons of major biological activity below plow depth are particle-size distribution, mineral content, temperature regime, thickness of the soil penetrable by roots, consistence, moisture equivalent, soil slope, and permanent cracks. A family name consists of the name of a subgroup and a series of adjectives. The adjectives are the class names for the soil properties used as family differentiae. An example is fine-loamy, mixed, nonacid, mesic, Typic Haplaquents.

SERIES. The series consists of soils that formed in a particular kind of material and have horizons that, except for texture of the surface soil or of the underlying substratum, are similar in differentiating characteristics and in arrangement in the soil profile. Among these characteristics are color, texture, structure, reaction, consistence, and mineral and chemical composition.

Formation of the soils

This section discusses the factors of soil formation, relates them to the formation of soils in the survey area, and explains the process of soil formation.

Soil is the collection of natural bodies on the earth's surface. It contains living matter and supports or is capable of supporting plants. The five important factors of soil formation are parent material, climate, living organisms (plants and animals), topography, and time.

Climate and living organisms are the active forces in soil formation. Their effect on the parent material is modified by topography and by the length of time the parent material has been in place. The relative importance of each factor differs from one place to another. In some places one factor dominates in the formation and fixes most of the properties of the soil formed, but normally the interaction of all five factors determines what kind of soil is formed at any given place.

Although soil formation is complex, some understanding of the soil-forming processes may be gained by considering each of the five factors separately. It must be remembered, however, that each of the five factors is affected by and also affects each of the other factors.

Parent material

Parent material is the unconsolidated mass from which a soil is formed. It has much to do with the mineral and chemical composition of the soil. In Beaufort and Jasper Counties the parent materials of the soils are marine or fluvial deposits. Most soils, including all of those within the survey area, have developed in materials distinctly removed from their origin. These deposits, because of the varying water velocity, differ widely in the amounts of sand, silt, and clay.

All of the soils in the survey area were deposited or formed during the Pleistocene or glacial epoch. During this period the ocean moved over the area, perhaps several times. As the ocean retreated it left formations and terraces indicating abandoned shore lines and soils of varying ages. The terraces occurring in the survey area, in sequence from the sea, are the Recent, Pamlico, Talbot, Penholoway, and Wicomico terraces (*3*).

The Recent terrace includes those soils that are at or near sea level and are flooded daily, or occasionally, by seawater. Bohicket, Capers, and Handsboro are the dominant soils that formed in this material. These deposits show little evidence of soil development.

The Pamlico terraces ranges from about 0 feet to 25 feet above sea level. This terrace encompasses nearly all of Beaufort County, excluding those areas flooded by seawater. The soils on this terrace, being of a younger age than most of those on higher elevations, commonly have more than 10 percent weatherable minerals. Consequently they are classified as having mixed mineralogy. Among the many soils on this terrace are the Argent, Bladen, Bertie, Coosaw, Eulonia, Nemours, Seabrook, Wahee, and Yemassee soils.

The Talbot terrace ranges from 25 feet to 42 feet above sea level. This terrace occupies a very small part of the survey area. Small areas are in the vicinity of Ridgeland and Tillman in Jasper County, adjacent to the Savannah River in the northwestern part of Jasper County, adjacent to the Coosawhatchie River in the northeastern part of Jasper County, and on a few small ridges in Beaufort County. The fine textured soils on this terrace, including the Cape Fear, Nemours, and Wahee soils, have a mixed mineralogy.

The Penholoway terrace ranges from 42 feet to 70 feet above sea level. In the survey area most of this terrace is in the Pineland-Tarboro-Tillman area in Jasper County. The soils on this terrace, being older and more highly weathered, have dominantly siliceous or kaolinitic mineralogy. The more common soils are Coxville, Goldsboro, Lynchburg, Rains, and Paxville.

The Wicomico terrace ranges from about 70 feet to 100 feet above sea level. In the survey area most of this terrace is in Jasper County, from Ridgeland extending north to the county boundary. Soils in this area are more highly developed than those on the lower terraces, and they have either siliceous or kaolinitic mineralogy. Some of the more common soils in this area include Norfolk, Albany, Ocilla, Pelham, and Paxville.

Alluvial materials consisting of sand, silt, and clay have been deposited in the flood plain of the Savannah River on the western boundary of Jasper County. These fairly recent soils show limited evidence of soil development.

Climate

The climate of Beaufort and Jasper Counties is important in the formation of soils. These counties have a temperate climate, and rainfall is fairly well distributed throughout the year. Temperature and precipitation are discussed in the subsection on climate in the section "General nature of Beaufort and Jasper Counties." The sea islands commonly have winter temperatures 3 to 5 degrees warmer and 30 to 40 additional frost-free days than the more inland areas.

Climate, particularly precipitation and temperature, affects the physical, chemical, and biological relationships of the soil. Water dissolves minerals, aids chemical and biological activity, and transports the dissolved mineral and organic material through the soil profile. Large amounts of rainwater promote leaching of the soluble bases and promote the translocation of the less soluble and fine-textured soil material downward through the soil profile. The amount of water that percolates through the soil depends on the amount of rainfall, the length of frost-free season, topography, and the permeability of the soil material.

Weathering of the parent materials is speeded by moist conditions and warm temperature. The growth and activity of living organisms is increased by a warm humid climate.

The high rainfall, warm temperatures, and long frost-free growing season have had a marked effect on the characteristics of the soils that have developed in Beaufort and Jasper Counties.

Living organisms

The number and kinds of plants and animals that live in and on the soil are determined mainly by the climate, but, to a lesser extent, by parent material, topography, and age of the soil.

Bacteria, fungi, and other micro-organisms are indispensable in soil formation. They hasten the weathering of minerals and the decomposing of organic matter. Larger plants alter the soil microclimate, furnish organic matter, and transfer chemical elements from the subsoil to the surface soil.

Most of the fungi, bacteria, and other micro-organisms in the soils of the survey area are in the upper few inches of the soil. The activity of earthworms and other small invertebrates is chiefly in the A horizon and upper part of the B horizon. Here these organisms slowly but continuously mix the soil material. Bacteria and fungi decompose organic matter and release nutrients for plant use.

Animals play a secondary role in soil formation, but their influence is very great. By eating plants they perform one step in returning plant material to the soil.

In Beaufort and Jasper Counties the native vegetation in the better drained areas is chiefly loblolly pine, longleaf pine, oak, and hickory. In the wetter areas it is mainly sweetgum, black gum, yellow-poplar, maple, tupelo, ash, and cypress. Large trees affect soil formation by bringing nutrients up from deep in the soil, by bringing soil material up from varying depths when the trees are blown over, and by providing large openings to be filled by material from above as large roots decay.

Topography

Topography, or lay of the land, influences soil formation, because it affects moisture, vegetation, temperature, and erosion. Because of this, several different kinds of soils may form from similar parent material. Most of the soil of Beaufort and Jasper Counties are nearly level and have shallow depressions and drainageways and low ridges with gentle slopes. About 20 percent of the survey area is flooded daily or occasionally by saline water. These flooded areas and some of the other soils in low areas have a low degree of development.

Time

The length of time required for a soil to develop depends largely on the intensity of other soil forming factors. The soils of Beaufort and Jasper Counties range from immature, or young, to mature. On the higher elevations of the uplands, most of the soils have well developed horizons that are easily recognized. Where the parent materials are very sandy or flooded, little horizonation has taken place. Alluvial soils, deposited adjacent to streams, frequently have not been in place long enough for distinct horizon development.

Morphology of soils

If a vertical cut is dug into a soil, several layers or horizons are evident. The differentation of horizons is the result of many soil forming processes. These include the accumulation of organic matter, the leaching of soluble salts, reduction and translocation of iron, the formation of soil structure, physical weathering, such as freezing and thawing, and chemical weathering of primary minerals or rocks.

Some of these processes are continually taking place in all soils, but the number of active processes and the degree of their activity vary from one soil to another.

Most soils have three major horizons called A, B, and C (*4*). These major horizons may be further subdivided by the use of subscripts and letters to indicate changes within one horizon. An example would be the B2t horizon which represents a layer within the B horizon that has translocated clay from the A horizon.

The A horizon is the surface layer and has the largest accumulation of organic matter. Where it is undisturbed, it is called the A1 horizon. Where the soil has been cleared and plowed, it is called the Ap horizon. The Deloss and Paxville soils are examples of soils that have a distinctive, dark colored A1 or Ap horizon.

The A horizon is also the zone of maximum leaching or eluviation of clay and iron in the profile. Where considerable leaching has taken place, an A2 horizon is formed generally below the A1 horizon. Normally, the A2 horizon is the lightest colored horizon in the soil. It is well expressed in such soils as Bonneau and Ocilla.

The B horizon is below the A horizon and is commonly called the subsoil. It is the horizon of maximum accumulation or illuviation of clay, iron, aluminum, or other compounds that leached from the A horizon. Norfolk, Nemours, and Wahee are among the soils that have a well expressed B horizon. Some soils, such as Chipley and Pickney, have not formed a B horizon, and the C horizon lies immediately under the A horizon. The C horizon is made up of materials that are little altered by the soil forming processes, but they may be modified by weathering.

Well drained and moderately well drained soils in Beaufort and Jasper Counties have a yellowish brown or reddish subsoil. These colors are mainly due to thin coatings of iron oxides on the sand, silt, and clay particles. A soil is considered well drained if it is free of gray mottles (a chroma of 2 or less) to a depth of at least 50 inches below the surface. Among the well drained soils in this county are Norfolk, Chisolm, and Eddings. Moderately well drained soils are wet for short periods and are generally free of gray mottles to a depth of about 15 to 20 inches. Goldsboro and Nemours are examples of moderately well drained soils.

The reduction and transfer of iron is associated with the wetter, more poorly drained soils. This process is called gleying. Poorly drained to very poorly drained soils, such as the Rains and Paxville soils, have a grayish subsoil and underlying material which indicates reduction and transfer of iron. Moderately well drained to somewhat poorly drained soils have yellowish brown and gray mottles indicating the segregation of iron. Lynchburg soils are among the somewhat poorly drained soils in this survey area.

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Glossary

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Association, soil. A group of soils geographically associated in a characteristic repeating pattern and defined and delineated as a single mapping unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as—

	Inches
Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	More than 9

Base saturation. The degree to which material having base exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, K), expressed as a percentage of the exchange capacity.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coat, clay skin.

Coarse textured (light textured) soil. Sand or loamy sand.

Compressible. Excessive decrease in volume of soft soil under load.

Concretions. Grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrated compounds or cemented soil grains. The composition of most concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are common compounds in concretions.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—

Loose.—Noncoherent when dry or moist; does not hold together in a mass.

Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.

Sticky.—When wet, adheres to other material and tends to stretch somewhat and pull apart rather than to pull free from other material.

Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft.—When dry, breaks into powder or individual grains under very slight pressure.

Cemented.—Hard; little affected by moistening.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is 40 or 80 inches (1 or 2 meters).

Corrosive. High risk of corrosion to uncoated steel or deterioration of concrete.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Drainage class (natural). Refers to the frequency and duration of periods of saturation or partial saturation during soil formation, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven classes of natural soil drainage are recognized:

Excessively drained.—Water is removed from the soil very rapidly. Excessively drained soils are commonly very coarse textured, rocky, or shallow. Some are steep. All are free of the mottling related to wetness.

Somewhat excessively drained.—Water is removed from the soil rapidly. Many somewhat excessively drained soils are sandy and rapidly pervious. Some are shallow. Some are so steep that much of the water they receive is lost as runoff. All are free of the mottling related to wetness.

Well drained.—Water is removed from the soil readily, but not rapidly. It is available to plants throughout most of the growing season, and wetness does not inhibit growth of roots for significant periods during most growing seasons. Well drained soils are commonly medium textured. They are mainly free of mottling.

Moderately well drained.—Water is removed from the soil somewhat slowly during some periods. Moderately well drained soils are wet for only a short time during the growing season, but periodically for long enough that most mesophytic crops are affected. They commonly have a slowly pervious layer within or directly below the solum, or periodically receive high rainfall, or both.

Somewhat poorly drained.—Water is removed slowly enough that the soil is wet for significant periods during the growing season. Wetness markedly restricts the growth of mesophytic crops unless artificial drainage is provided. Somewhat poorly drained soils commonly have a slowly pervious layer, a high water table, additional water from seepage, nearly continuous rainfall, or a combination of these.

Poorly drained.—Water is removed so slowly that the soil is saturated periodically during the growing season or remains wet for long periods. Free water is commonly at or near the surface for long enough during the growing season that most mesophytic crops cannot be grown unless the soil is artificially drained. The soil is not continuously saturated in layers directly below plow depth. Poor drainage results from a high water table, a slowly pervious layer within the profile, seepage, nearly continuous rainfall, or a combination of these.

Very poorly drained.—Water is removed from the soil so slowly that free water remains at or on the surface during most of the growing season. Unless the soil is artificially drained, most mesophytic crops cannot be grown. Very poorly drained soils are commonly level or depressed and are frequently ponded. Yet, where rainfall is high and nearly continuous, they can have moderate or high slope gradients, as for example in "hillpeats" and "climatic moors."

Drainage, surface. Runoff, or surface flow of water, from an area.

Erosion. The wearing away of the land surface by running water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of the activities of man or other animals or of a catastrophe in nature, for example, fire, that exposes a bare surface.

Excess fines. Excess silt and clay. The soil does not provide a source of gravel or sand for construction purposes.

Fast intake. The rapid movement of water into the soil.

Favorable. Favorable soil features for the specified use.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Fine textured (heavy textured) soil. Sandy clay, silty clay, and clay.

Flooding. The temporary covering of soil with water from overflowing streams, runoff from adjacent slopes, and tides. Frequency, duration, and probable dates of occurrence are estimated. Frequency is expressed as none, rare, occasional, and frequent. *None* means that flooding is not probable; *rare* that it is unlikely but possible under unusual weather conditions; *occasional* that it occurs on an average of once or less in 2 years; and *frequent* that it occurs on an average of more than once in 2 years. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, and *long* if more than 7 days. Probable dates are expressed in months; *November-May*, for example, means that flooding can occur during the period November through May. Water standing for short periods after rainfall or commonly covering swamps and marshes is not considered flooding.

Gleyed soil. A soil having one or more neutral gray horizons as a result of waterlogging and lack of oxygen. The term "gleyed" also designates gray horizons and horizons having yellow and gray mottles as a result of intermittent waterlogging.

Gravel. Rounded or angular fragments of rock up to 3 inches (2 millimeters to 7.5 centimeters) in diameter. An individual piece is a pebble.

Habitat. The natural abode of a plant or animal; refers to the kind of environment in which a plant or animal normally lives, as opposed to the range or geographical distribution.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric and the more decomposed sapric material.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. The major horizons of mineral soil are as follows:

O horizon.—An organic layer, fresh and decaying plant residue, at the surface of a mineral soil.

A horizon.—The mineral horizon, formed or forming at or near the surface, in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon most of which was originally part of a B horizon.

A2 horizon.—A mineral horizon, mainly a residual concentration of sand and silt high in content of resistant minerals as a result of the loss of silicate clay, iron, aluminum, or a combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of change from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics caused (1) by accumulation of clay, sesquioxides, humus, or a combination of these; (2) by prismatic or blocky structure; (3) by redder or browner colors than those in the A horizon; or (4) by a combination of these. The combined A and B horizons are generally called the solum, or true soil. If a soil lacks a B horizon, the A horizon alone is the solum.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the A or B horizon. The material of a C horizon may be either like or unlike that from which the solum is presumed to have formed. If the material is known to differ from that in the solum the Roman numeral II precedes the letter C.

R layer.—Consolidated rock beneath the soil. The rock commonly underlies a C horizon, but can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff-producing characteristics. The chief consideration is the inherent capacity of soil bare of vegetation to permit infiltration. The slope and the kind of plant cover are not considered, but are separate factors in predicting runoff. Soils are assigned to four groups. In group A are soils having a high infiltration rate when thoroughly wet and having a low runoff potential. They are mainly deep, well drained, and sandy or gravelly. In group D, at the other extreme, are soils having a very slow infiltration rate and thus a high runoff potential. They have a claypan or clay layer at or near the surface, have a permanent high water table, or are shallow over nearly impervious bedrock or other material. A soil is assigned to two hydrologic groups if part of the acreage is artificially drained and part is undrained.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Leaching. The removal of soluble material from soil or other material by percolating water.

Light textured soil. Sand and loamy sand.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low strength. Inadequate strength for supporting loads.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Mottling, soil. Irregular spots of different colors that vary in number and size. Mottling generally indicates poor aeration and impeded drainage. Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

Muck. Dark colored, finely divided, well decomposed organic soil material mixed with mineral soil material. The content of organic matter is more than 20 percent.

Neutral soil. A soil having a pH value between 6.6 and 7.3.

Nutrient, plant. Any element taken in by a plant, essential to its growth, and used by it in the production of food and tissue. Plant nutrients are nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, zinc, and perhaps other elements obtained from the soil; and carbon, hydrogen, and oxygen obtained largely from the air and water.

Parent material. The great variety of unconsolidated organic and mineral material in which soil forms. Consolidated bedrock is not yet parent material by this concept.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percs slowly. The slow movement of water through the soil adversely affecting the specified use.

Permeability. The quality that enables the soil to transmit water or air, measured as the number of inches per hour that water moves through the soil. Terms describing permeability are *very slow* (less than 0.06 inch), *slow* (0.06 to 0.20 inch), *moderately slow* (0.2 to 0.6 inch), *moderate* (0.6 to 2.0 inches), *moderately rapid* (2.0 to 6.0 inches), *rapid* (6.0 to 20 inches), and *very rapid* (more than 20 inches).

Piping. Moving water of subsurface tunnels or pipelike cavities in the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from a semisolid to a plastic state.

Poorly graded. Refers to soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Productivity (soil). The capability of a soil for producing a specified plant or sequence of plants under a specified system of management. Productivity is measured in terms of output, or harvest, in relation to input.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Reaction, soil. The degree of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degree of acidity or alkalinity is expressed as—

	pH
Extremely acid	Below 4.5
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Medium acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Mildly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged in stream channels from a drainage area. The water that flows off the land surface without sinking in is called surface runoff; that which enters the ground before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Seepage. The rapid movement of water through the soil. Seepage adversely affects the specified use.

Series, soil. A group of soils, formed from a particular type of parent material, having horizons that, except for the texture of the A or surface horizon, are similar in all profile characteristics and in arrangement in the soil profile. Among these characteristics are color, texture, structure, reaction, consistence, and mineralogical and chemical composition.

Shrink-swell. The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75 feet.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slow intake. The slow movement of water into the soil.

Slow refill. The slow filling of ponds, resulting from restricted permeability in the soil.

Soil. A natural, three-dimensional body at the earth's surface that is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in mature soil consists of the A and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the underlying material. The living roots and other plant and animal life characteristics of the soil are largely confined to the solum.

Stratified. Arranged in strata, or layers. The term refers to geologic material. Layers in soils that result from the processes of soil formation are called horizons; those inherited from the parent material are called strata.

Stripcropping. Growing crops in a systematic arrangement of strips or bands which provide vegetative barriers to wind and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates that are separated from adjoining aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsurface layer. Technically, the A2 horizon. Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying surface layer.

Surface soil. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt, silt loam, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or " very fine."

Tilth, soil. The condition of the soil, especially the soil structure, as related to the growth of plants. Good tilth refers to the friable state and is associated with high noncapillary porosity and stable structure. A soil in poor tilth is nonfriable, hard, nonaggregated, and difficult to till.

Topsoil (engineering). Presumably a fertile soil or soil material, or one that responds to fertilization, ordinarily rich in organic matter, used to topdress roadbanks, lawns, and gardens.

Upland (geology). Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Unstable fill. Risk of caving or sloughing in banks of fill material.

Water table. The upper limit of the soil or underlying rock material that is wholly saturated with water.

Water table, apparent. A thick zone of free water in the soil. An apparent water table is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil.

Water table, artesian. A water table under hydrostatic head, generally beneath an impermeable layer. When this layer is penetrated, the water level rises in an uncased borehole.

Water table, perched. A water table standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Illustrations

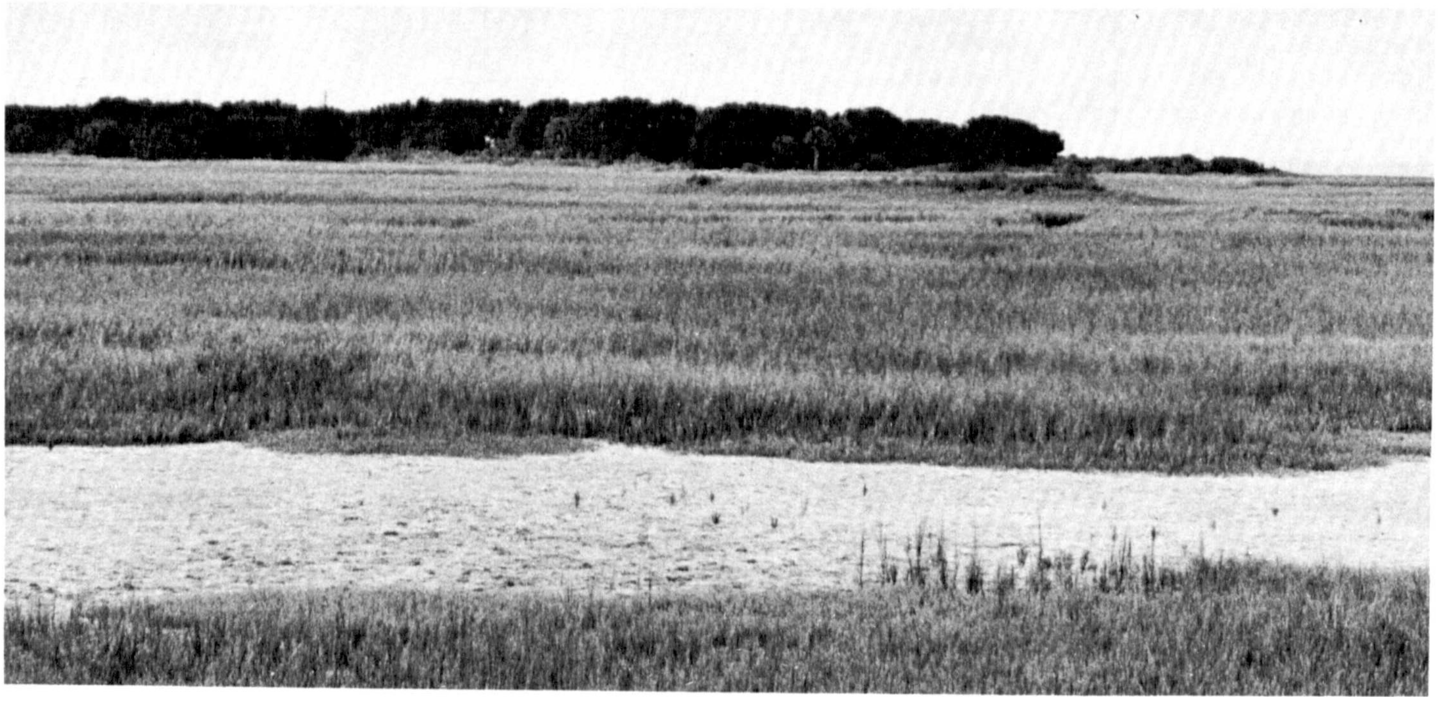

Figure 1.—Vegetation and saline water (at normal high tide) on Capers association.

Figure 2.—Corn on well managed Chipley fine sand, 0 to 2 percent slopes, in an area of Chipley-Pelham-Echaw association.

Figure 3.—Fast growing loblolly pine on Eulonia fine sandy loam in a map unit of the Eulonia association.

Figure 4.—Improved bermudagrass hay on Lakeland fine sand, 0 to 6 percent slopes.

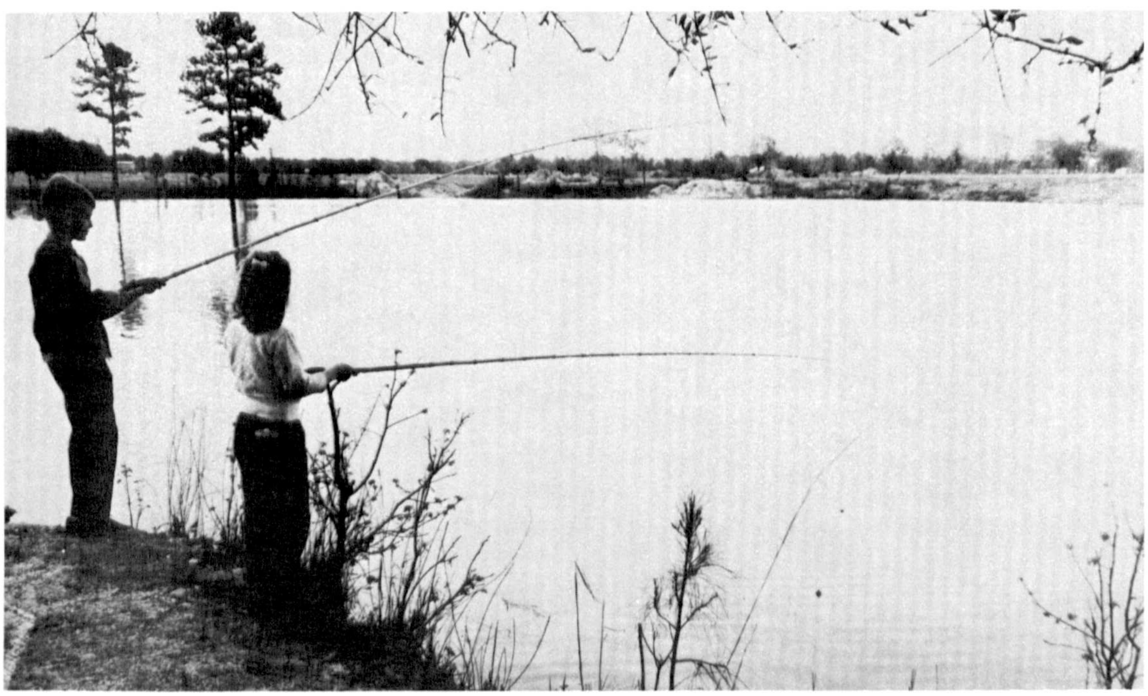

Figure 5.—Impounded water on Pelham loamy sand serving multiple recreational uses.

Figure 6.—Surface water on Wahee fine sandy loam after about 5 inches of rain.

Figure 7.—Shoreline eroded by high tides and ocean current on Fripp fine sand of the Fripp-Baratari complex.

Figure 8.—Improved bermudagrass pasture on well managed Lakeland fine sand, 0 to 6 percent slopes.

Figure 9.—Golf courses on Fripp Island in a shaped area of the Fripp-Baratari complex.

Figure 10.—Water control on Bladen fine sandy loam used for growing corn for waterfowl.

Tables

TABLE 1.--TEMPERATURE AND PRECIPITATION DATA

[Data for Beaufort County, South Carolina[1]]

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days[2]	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snowfall
	F	F	F	F	F	Units	In	In	In	Days	In
January	61.1	38.6	49.9	79.6	16.4	118	3.3	1.6	4.9	5.5	([3])
February	63.2	40.5	51.8	81.2	20.2	128	3.2	1.8	4.6	6.1	0.02
March	68.7	45.7	57.1	86.5	26.3	249	4.4	2.2	6.6	6.7	0.00
April	77.0	53.7	65.3	91.3	35.2	461	2.6	1.4	3.7	4.6	0.00
May	83.6	62.0	72.8	96.2	44.5	708	4.8	2.6	7.0	6.0	0.00
June	87.8	68.5	78.1	100.2	55.8	840	5.2	2.3	8.2	7.4	0.00
July	89.7	71.4	80.5	98.9	62.4	947	7.4	3.7	11.0	10.0	0.00
August	89.4	71.1	80.3	98.7	62.1	937	6.7	3.6	9.9	8.0	0.00
September	84.6	66.6	75.6	94.5	51.7	759	4.8	2.5	7.2	6.4	0.00
October	77.7	56.8	67.2	90.3	36.3	535	2.6	0.5	4.8	3.8	0.00
November	68.8	45.6	57.2	83.9	23.2	244	1.6	0.5	2.7	3.2	0.00
December	61.8	39.8	50.8	79.2	19.1	125	2.5	1.5	3.5	5.3	0.00
Year	76.2	55.1	65.6	[4]100.5	[5]12.5	6,296	49.1	40.1	58.0	75.7	0.03

[1]Recorded 7 miles SW. of Beaufort, Beaufort County, South Carolina, during the period 1949-72.

[2]A growing degree-day is an index of the amount of heat available for plant growth. Growing degree-days accumulate each day in the amount by which the average daily temperature exceeds the temperature below which growth is minimal for the principal crops in the area (50° F).

[3]Trace

[4]Average annual highest temperature.

[5]Average annual lowest temperature.

TABLE 2.--TEMPERATURE AND PRECIPITATION DATA

[Data for Jasper County, South Carolina[1]]

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days[2]	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snowfall
	F	F	F	F	F	Units	In	In	In	Days	In
January----	65.1	37.6	49.6	80.6	14.3	123	3.1	1.5	4.7	6.2	([3])
February---	64.2	39.2	51.7	82.9	17.4	134	3.6	2.0	5.2	6.2	0.04
March------	70.6	44.2	57.4	89.0	24.2	260	4.2	2.1	6.4	6.8	0.00
April------	78.7	52.1	65.4	92.5	32.4	461	2.8	1.4	4.1	4.9	0.00
May--------	85.1	60.0	72.6	97.5	42.7	672	4.5	2.2	6.7	6.0	0.00
June-------	88.9	66.6	77.8	100.8	53.0	814	5.0	2.6	7.5	8.2	0.00
July-------	90.9	69.8	80.3	100.2	59.4	933	7.3	3.1	11.4	10.2	0.00
August-----	90.5	69.3	79.9	98.7	59.9	882	6.3	3.2	9.4	8.0	0.00
September--	85.1	65.1	75.1	96.3	48.7	751	5.3	2.6	8.0	6.8	0.00
October----	77.7	54.9	66.3	90.5	32.3	492	0.5	0.5	4.8	4.0	0.00
November---	69.4	43.5	55.9	83.5	21.3	213	2.1	0.8	3.5	3.7	0.00
December---	62.1	38.2	50.1	79.9	16.0	126	2.7	1.5	3.9	5.3	0.00
Year-----	76.8	53.1	65.0	[4]102.1	[5]10.6	5,907	48.3	40.0	56.5	77.3	0.05

[1]Recorded at Ridgeland, Jasper County, South Carolina, during the period 1949-73.

[2]A growing degree-day is an index of the amount of heat available for plant growth. Growing degree-days accumulate each day in the amount by which the average daily temperature exceeds the temperature below which growth is minimal for the principal crops in the area (50° F).

[3]Trace

[4]Average annual highest temperature.

[5]Average annual lowest temperature.

TABLE 3.--FREEZE DATES IN SPRING AND FALL

[Data for Beaufort County, South Carolina[1]]

Probability	Temperature		
	24 F or lower	28 F or lower	32 F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	January 12	March 17	March 30
1 years in 4 later than--	January 24	March 7	March 21
5 years in 10 later than--	February 7	February 25	March 12
First freezing temperature in fall:			
1 year in 10 earlier than--	November 18	November 10	November 2
1 years in 4 earlier than--	November 26	November 19	November 10
5 years in 10 earlier than--	December 5	November 28	November 19

[1]From data recorded near Beaufort, Beaufort County, South Carolina, during the period 1933-74.

TABLE 4.--FREEZE DATES IN SPRING AND FALL

[Data for Jasper County, South Carolina[1]]

Probability	Temperature		
	24 F or lower	28 F or lower	32 F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	March 11	March 27	March 31
1 years in 4 later than--	February 28	March 17	March 23
5 years in 10 later than--	February 16	March 6	March 14
First freezing temperature in fall:			
1 year in 10 earlier than--	November 16	October 31	October 30
1 years in 4 earlier than--	November 24	November 9	November 5
5 years in 10 earlier than--	December 4	November 19	November 15

[1]From data recorded at Ridgeland, South Carolina, during the period 1949-74.

TABLE 5.--POTENTIALS AND LIMITATIONS OF MAP UNITS ON THE GENERAL SOIL MAP FOR SPECIFIED USES[1]

Map units	Extent of area	Cultivated farm crops	Pasture	Woodland	Urban uses	Recreation areas
	Pct					
1. Goldsboro-Lynchburg-Rains.	7	High: wetness.	High: wetness.	High-----------	Medium: wetness.	Medium: wetness.
2. Ocilla-Chipley-Blanton.	11	Medium: too sandy.	Medium: too sandy.	Medium: too sandy.	Medium: wetness.	Medium: wetness.
3. Paxville-Rains-Lynchburg.	3	High: wetness.	High: wetness.	High-----------	Low: wetness.	Low: wetness.
4. Santee----------	6	Medium: wetness; too clayey.	Medium: wetness.	High-----------	Low: wetness.	Low: wetness.
5. Buncombe--------	4	Low: too sandy.	Low: too sandy.	Medium: too sandy	Low: too sandy.	Low: too sandy.
6. Argent-Okeetee--	12	Medium: wetness; too clayey.	High: wetness.	High-----------	Low: wetness.	Low: wetness.
7. Bladen-Coosaw-Wahee.	13	Medium: wetness.	Medium: wetness.	High-----------	Low: wetness.	Medium: wetness.
8. Wando-Seabrook-Seewee.	14	Medium: too sandy.	Medium: too sandy.	Medium: too sandy.	Medium: wetness.	Medium: too sandy.
9. Coosaw-Williman-Ridgeland.	6	Medium: wetness.	Medium: wetness.	Medium: too sandy.	Low: wetness.	Medium: wetness.
10. Fripp-Baratari--	1	Low: too sandy.	Low: too sandy.	Low: too sandy.	Low: too sandy.	Low: too sandy.
11. Tawcaw-Chastain-	2	Low: wetness; floods.	Low: wetness; floods.	High-----------	Low: wetness; floods.	Low: wetness; floods.
12. Bohicket-Capers-Handsboro.	24	Low: floods.	Low: floods.	Low: floods.	Low: floods.	Low: floods.

[1]It should be note that the components of these map units vary widely in potential, and the map unit potentials are based on the acreage of each component and the severity of each component's limitation.

TABLE 6.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Beaufort County	Jasper County	Total-- Area	Extent
		Acres	Acres	Acres	Pct
Aa	Albany loamy fine sand, 0 to 2 percent slopes	0	3,000	3,000	0.4
AB	Albany-Blanton association	0	2,700	2,700	0.3
AC	Albany-Pelham-Ocilla association	0	11,800	11,800	1.5
Ae	Argent fine sandy loam	2,600	9,000	11,600	1.4
Ag	Argent clay loam	700	1,300	2,000	0.3
AN	Argent association	0	13,800	13,800	1.7
AO	Argent-Okeetee association	0	27,200	27,200	3.4
Ba	Baratari fine sand	9,000	300	9,300	1.2
Bb	Bertie loamy fine sand	5,300	200	5,500	0.7
BC	Bertie-Coosaw-Tomotley association	0	1,300	1,300	0.2
Bd	Bladen fine sandy loam	13,200	18,700	31,900	4.0
BeB	Blanton fine sand, 0 to 6 percent slopes	0	7,800	7,800	1.0
BeC	Blanton fine sand, 6 to 10 percent slopes	0	1,000	1,000	0.1
BK	Bohicket association	88,100	17,500	105,600	13.2
BnA	Bonneau loamy sand, 0 to 2 percent slopes	0	2,700	2,700	0.3
Bp	Borrow pit	400	900	1,300	0.2
BR	Buncombe association	0	4,100	4,100	0.5
BS	Buncombe-Santee association	0	7,000	7,000	0.9
Ca	Cape Fear loam	4,200	6,200	10,400	1.3
CE	Capers association	36,000	900	36,900	4.6
ChA	Chipley fine sand, 0 to 2 percent slopes	0	7,200	7,200	0.9
CK	Chipley-Pelham-Echaw association	0	10,500	10,500	1.3
CmB	Chisolm loamy fine sand, 0 to 6 percent slopes	3,300	900	4,200	0.5
Co	Coastal beaches	1,900	500	2,400	0.3
Cs	Coosaw loamy fine sand	23,700	12,400	36,100	4.5
Cx	Coxville fine sandy loam	0	2,700	2,700	0.3
De	Deloss fine sandy loam	13,100	6,700	19,800	2.5
Ec	Echaw loamy fine sand	0	6,900	6,900	0.9
EdB	Eddings fine sand, 0 to 6 percent slopes	1,500	670	2,170	0.3
Ee	Eulonia fine sandy loam	500	8,000	8,500	1.1
EU	Eulonia association	0	4,900	4,900	0.6
FA	Fluvaquents and Udipsamments	0	6,700	6,700	0.8
Fb	Fripp-Baratari complex	5,600	200	5,800	0.7
GoA	Goldsboro loamy fine sand, 0 to 2 percent slopes	0	13,400	13,400	1.7
HA	Handsboro soils	50	13,450	13,500	1.7
HB	Hobonny soils	2,300	5,000	7,300	0.9
LaB	Lakeland fine sand, 0 to 6 percent slopes	0	4,800	4,800	0.6
LE	Levy soils	600	10,400	11,000	1.4
Ln	Lynchburg loamy fine sand	0	9,100	9,100	1.1
Ly	Lynn Haven fine sand	0	1,130	1,130	0.1
Mu	Murad fine sand	8,300	2,500	10,800	1.3
NeA	Nemours fine sandy loam, 0 to 2 percent slopes	6,500	1,800	8,300	1.0
NeB	Nemours fine sandy loam, 2 to 6 percent slopes	400	1,800	2,200	0.3
NoA	Norfolk loamy fine sand, 0 to 2 percent slopes	0	7,000	7,000	0.9
NoB	Norfolk loamy fine sand, 2 to 6 percent slopes	0	600	600	0.1
Oc	Ocilla loamy fine sand	0	17,500	17,500	2.2
Oe	Okeetee fine sandy loam	200	1,300	1,500	0.2
OK	Okeetee-Eulonia association	0	4,500	4,500	0.6
On	Onslow loamy fine sand	400	1,100	1,500	0.2
Os	Osier loamy sand	1,800	7,800	9,600	1.2
Pa	Paxville fine sandy loam	0	11,500	11,500	1.4
PB	Paxville association	0	5,100	5,100	0.6
Pe	Pelham loamy sand	0	2,600	2,600	0.3
Pk	Pickney loamy fine sand	0	900	900	0.1
Po	Polawana loamy fine sand	8,900	300	9,200	1.2
Ra	Rains fine sandy loam	0	10,300	10,300	1.3
RB	Rains association	0	5,600	5,600	0.7
RC	Rains-Lynchburg association	0	5,900	5,900	0.7
Rd	Ridgeland fine sand	8,100	200	8,300	1.0
Ro	Rosedhu fine sand	13,500	100	13,600	1.7
Sa	Santee fine sandy loam	4,300	3,800	8,100	1.0
SE	Santee association	0	25,100	25,100	3.1
Sk	Seabrook fine sand	20,100	2,000	22,100	2.8
Sw	Seewee fine sand	13,400	400	13,800	1.7
TC	Tawcaw-Chastain association	0	12,500	12,500	1.6
To	Tomotley loamy fine sand	5,300	9,500	14,800	1.8
UL	Udorthents, loamy	500	0	500	0.1
US	Udorthents, sandy	1,450	50	1,500	0.2
Wa	Wahee fine sandy loam	4,800	11,000	15,800	2.0
Wd	Wando fine sand, 0 to 6 percent slopes	29,300	400	29,700	3.7
Wn	Williman loamy fine sand	12,600	2,800	15,400	1.9

TABLE 6.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Beaufort County	Jasper County	Total-- Area	Total-- Extent
		Acres	Acres	Acres	Pct
Ye	Yemassee loamy fine sand	5,650	1,400	7,050	0.9
Yo	Yonges loamy fine sand	2,150	300	2,450	0.3
YR	Yonges-Argent association	0	4,400	4,400	0.6
	Water	12,300	3,000	15,300	1.9
	Total	372,000	428,000	800,000	100.0

TABLE 7.--YIELDS PER ACRE OF CROPS AND PASTURE

[Yields are those that can be expected under a high level of management. The estimates were made in 1975. Absence of a yield figure indicates that the soil is not suited to the crop or the crop generally is not grown on the soil]

Soil name and map symbol	Corn	Soybeans	Wheat	Rye	Bahiagrass	Improved bermuda-grass	Hay crops, annuals
	Bu	Bu	Bu	Bu	AUM[1]	AUM[1]	Ton
Albany:							
Aa	65	25	30	35	7.5	8.0	4.6
[2]AB:							
Albany part	65	25	30	35	7.5	8.0	4.6
Blanton part	60	25	25	30	8.0	9.0	5.1
[2]AC:							
Albany part	65	25	30	35	7.5	8.0	4.6
Pelham part	75	30	---	---	6.0	---	---
Ocilla part	70	35	35	35	7.5	8.5	4.8
Argent:							
Ae, Ag, [2]AN	80	35	---	---	9.0	---	---
[2]AO:							
Argent part	80	35	---	---	9.0	---	---
Okeetee part	100	35	---	---	8.5	8.5	5.1
Baratari:							
Ba	60	25	---	---	6.0	---	---
Bertie:							
Bb	125	45	60	50	9.0	11.0	6.0
[2]BC:							
Bertie part	125	45	60	50	9.0	11.0	6.0
Coosaw part	90	35	35	35	8.0	10.0	5.4
Tomotley part	120	40	30	---	10.0	---	---
Bladen:							
Bd	90	30	---	---	6.0	---	---
Blanton:							
BeB	60	25	25	30	8.0	9.0	5.1
BeC	50	20	20	25	7.5	7.5	4.5
Bohicket:							
[2]BK	---	---	---	---	---	---	---
Bonneau:							
BnA	85	30	40	40	8.0	9.5	5.4
Borrow pit:							
Bp	---	---	---	---	---	---	---
Buncombe:							
[2]BR	40	20	---	---	5.0	5.0	3.0
[2]BS:							
Buncombe part	40	20	---	---	5.0	5.0	3.0
Santee part	90	35	---	---	---	---	---
Cape Fear:							
Ca	120	45	---	---	---	---	---
Capers:							
[2]CE	---	---	---	---	---	---	---

See footnotes at end of table.

TABLE 7.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Corn	Soybeans	Wheat	Rye	Bahiagrass	Improved bermuda-grass	Hay crops, annuals
	Bu	Bu	Bu	Bu	AUM[1]	AUM[1]	Ton
Chipley: ChA	65	30	20	25	8.0	10.0	5.4
[2]CK: Chipley part	65	30	20	25	8.0	10.0	5.4
Pelham part	75	30	---	---	6.0	---	---
Echaw part	70	30	25	25	7.5	7.5	4.5
Chisolm: CmB	90	30	35	40	8.0	10.0	5.4
Coastal beaches: Co	---	---	---	---	---	---	---
Coosaw: Cs	90	35	35	35	8.0	10.0	5.4
Coxville: Cx	105	40	30	---	10.0	---	---
Deloss: De	110	40	---	---	10.0	---	---
Echaw: Ec	70	30	25	25	7.5	7.5	4.5
Eddings: EdB	70	30	25	30	7.5	8.0	4.6
Eulonia: Ee, [2]EU	100	40	45	40	9.5	9.5	5.7
Fluvaquents: [2]FA	---	---	---	---	---	---	---
Fripp: [2]Fb	---	---	---	---	---	---	---
Goldsboro: GoA	125	45	60	50	9.0	11.0	6.0
Handsboro: [2]HA	---	---	---	---	---	---	---
Hobonny: [2]HB	---	---	---	---	---	---	---
Lakeland: LaB	55	20	15	20	7.0	8.0	4.5
Levy: [2]LE	---	---	---	---	---	---	---
Lynchburg: Ln	115	45	40	35	10.0	8.0	5.4
Lynn Haven: Ly	70	---	---	---	7.5	---	---
Murad: Mu	75	35	30	35	8.0	8.5	4.8
Nemours: NeA	100	40	40	35	9.5	10.0	5.8
NeB	90	35	35	30	9.0	11.0	5.8

See footnotes at end of table.

TABLE 7.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Corn	Soybeans	Wheat	Rye	Bahiagrass	Improved bermuda-grass	Hay crops, annuals
	Bu	Bu	Bu	Bu	AUM[1]	AUM[1]	Ton
Norfolk:							
NoA	110	40	60	55	8.5	10.5	6.0
NoB	100	35	55	50	8.0	10.0	5.8
Ocilla:							
Oc	70	35	35	35	7.5	8.5	4.8
Okeetee:							
Oe	100	35	---	---	8.5	8.5	5.1
[2]OK:							
Okeetee part	100	35	---	---	8.5	8.5	5.1
Eulonia part	100	40	45	40	9.5	9.5	5.7
Onslow:							
On	115	40	40	35	9.0	10.0	5.7
Osier:							
Os	---	---	---	---	---	---	---
Paxville:							
Pa, [2]PB	110	40	---	---	12.0	---	---
Pelham:							
Pe	75	30	---	---	6.0	---	---
Pickney:							
Pk	---	---	---	---	8.0	---	---
Polawana:							
Po	75	30	---	---	7.5	---	---
Rains:							
Ra, [2]RB	110	40	30	---	10.0	---	---
[2]RC:							
Rains part	110	40	30	---	10.0	---	---
Lynchburg part	115	45	40	35	10.0	8.0	5.4
Ridgeland:							
Rd	65	25	20	25	7.5	7.5	4.5
Rosedhu:							
Ro	65	20	---	---	6.0	---	---
Santee:							
Sa, [2]SE	90	35	---	---	---	---	---
Seabrook:							
Sk	75	30	25	30	9.0	9.0	5.4
Seewee:							
Sw	70	25	20	25	8.0	9.0	5.1
Tawcaw:							
[2]TC:							
Tawcaw part	---	---	---	---	---	---	---
Chastain part	---	---	---	---	---	---	---
Tomotley:							
To	120	40	30	---	10.0	---	---
Udorthents:							
UL, US	---	---	---	---	---	---	---

See footnotes at end of table.

TABLE 7.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Corn	Soybeans	Wheat	Rye	Bahiagrass	Improved bermuda-grass	Hay crops, annuals
	Bu	Bu	Bu	Bu	AUM[1]	AUM[1]	Ton
Wahee:							
Wa	90	40	30	30	9.0	8.0	5.1
Wando:							
Wd	55	20	20	20	---	8.0	4.8
Williman:							
Wn	95	35	---	---	10.0	---	---
Yemassee:							
Ye	120	45	40	35	11.0	12.0	6.9
Yonges:							
Yo	110	40	30	---	12.0	---	---
[2]YR:							
Yonges part	110	40	30	---	12.0	---	---
Argent part	80	35	---	---	9.0	---	---

[1]Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for a period of 30 days.

[2]This map unit is made up of two or more dominant kinds of soil. See description of the map unit for composition and behavior characteristics of the whole map unit.

TABLE 8.--YIELDS PER ACRE OF TRUCK CROPS

[Yields are those that can be expected under a high level of management. The estimates were made in 1975. Absence of a yield figure indicates that the soil is not suited to the crop or the crop generally is not grown on the soil]

Soil name and map symbol	Cabbage	Cucumbers	Leafy[1] vegetables	Snap-beans	Squash	Tomatoes	Water-melons
	Crates 80/Ct.	Tons	Tons	Bu	Bu	Tons	Tons
Albany:							
Aa	---	---	---	---	---	---	12
[2]AB:							
Albany part	---	---	---	---	---	---	12
Blanton part	---	---	---	---	---	---	11
[2]AC:							
Albany part	---	---	---	---	---	---	12
Pelham part	---	10.0	---	---	---	---	---
Ocilla part	---	---	---	---	---	---	16
Argent:							
Ae, Ag, [2]AN	350	7.0	5	175	250	---	---
[2]AO:							
Argent part	350	7.0	5	175	250	---	---
Okeetee part	360	8.0	5	180	260	8.0	---
Baratari:							
Ba	300	6.0	4	100	---	7.0	---
Bertie:							
Bb	350	12.5	7	310	500	15.0	---
[2]BC:							
Bertie part	350	12.5	7	310	500	15.0	---
Coosaw part	325	12.0	6	250	400	10.0	---
Tomotley part	350	12.0	7	225	300	10.0	---
Bladen:							
Bd	375	7.0	5	175	250	---	---
Blanton:							
BeB	---	---	---	---	---	---	12
BeC	---	---	---	---	---	---	10
Bohicket:							
[2]BK	---	---	---	---	---	---	---
Bonneau:							
BnA	---	7.5	---	---	---	---	15
Borrow pit:							
Bp	---	---	---	---	---	---	---
Buncombe:							
[2]BR	---	---	---	---	---	---	---
[2]BS:							
Buncombe part	---	---	---	---	---	---	---
Santee part	200	8.0	5	100	---	---	---

See footnotes at end of table.

TABLE 8.--YIELDS PER ACRE OF TRUCK CROPS--Continued

Soil name and map symbol	Cabbage	Cucumbers	Leafy[1] vegetables	Snap-beans	Squash	Tomatoes	Water-melons
	Crates 80/Ct.	Tons	Tons	Bu	Bu	Tons	Tons
Cape Fear:							
Ca	200	8.0	5	100	---	---	---
Capers:							
[2]CE	---	---	---	---	---	---	---
Chipley:							
ChA	---	7.0	---	---	---	---	10
[2]CK:							
Chipley part	---	7.0	---	---	---	---	10
Pelham part	---	10.0	---	---	---	---	---
Echaw part	---	8.0	---	---	---	---	10
Chisolm:							
CmB	---	8.0	4	200	375	7.5	---
Coastal beaches:							
Co	---	---	---	---	---	---	---
Coosaw:							
Cs	325	12.0	7	250	400	10.0	---
Coxville:							
Cx	---	---	---	---	---	---	---
Deloss:							
De	350	12.0	6	200	300	8.0	---
Echaw:							
Ec	---	8.0	---	---	---	---	10
Eddings:							
EdB	---	---	3	175	300	6.0	---
Eulonia:							
Ee, [2]EU	350	10.0	6	250	400	12.0	---
Fluvaquents:							
[2]FA	---	---	---	---	---	---	---
Fripp:							
[2]Fb	---	---	---	---	---	---	---
Goldsboro:							
GoA	---	10.0	---	275	400	---	---
Handsboro:							
[2]HA	---	---	---	---	---	---	---
Hobonny:							
[2]HB	---	---	---	---	---	---	---
Lakeland:							
LaB	---	---	---	---	---	---	10
Levy:							
[2]LE	---	---	---	---	---	---	---
Lynchburg:							
Ln	---	11.0	---	---	---	---	14
Lynn Haven:							
Ly	250	9.0	5	---	250	6.0	---

See footnotes at end of table.

TABLE 8.--YIELDS PER ACRE OF TRUCK CROPS--Continued

Soil name and map symbol	Cabbage	Cucumbers	Leafy[1] vegetables	Snap-beans	Squash	Tomatoes	Water-melons
	Crates 80/Ct.	Tons	Tons	Bu	Bu	Tons	Tons
Murad:							
Mu	275	9.0	5	225	275	7.0	---
Nemours:							
NeA	350	10.0	6	225	350	10.0	---
NeB	275	8.0	5	175	275	8.0	---
Norfolk:							
NoA	---	8.0	---	---	---	---	18
NoB	---	7.0	---	---	---	---	14
Ocilla:							
Oc	---	11.0	---	---	---	---	16
Okeetee:							
Oe	360	8.0	5	180	260	8.0	---
[2]OK:							
Okeetee part	360	8.0	5	180	260	12.0	---
Eulonia part	350	10.0	6	260	400	12.0	---
Onslow:							
On	---	10.0	---	---	---	---	---
Osier:							
Os	---	---	---	---	---	---	---
Paxville:							
Pa, [2]PB	---	---	---	---	---	---	---
Pelham:							
Pe	---	10.0	---	---	---	---	---
Pickney:							
Pk	---	---	---	---	---	---	---
Polawana:							
Po	275	9.0	5	180	250	6.0	---
Rains:							
Ra, [2]RB	---	---	---	---	---	---	---
[2]RC:							
Rains part	---	---	---	---	---	---	---
Lynchburg part	---	11.0	---	---	---	---	14
Ridgeland:							
Rd	275	9.0	5	175	275	8.0	---
Rosedhu:							
Ro	250	10.0	5	175	250	6.0	---
Santee:							
Sa, [2]SE	200	8.0	5	100	---	---	---
Seabrook:							
Sk	275	12.0	5	210	350	8.5	---
Seewee:							
Sw	275	8.0	5	200	325	7.0	---

See footnotes at end of table.

TABLE 8.--YIELDS PER ACRE OF TRUCK CROPS--Continued

Soil name and map symbol	Cabbage	Cucumbers	Leafy[1] vegetables	Snap-beans	Squash	Tomatoes	Water-melons
	Crates 80/Ct.	Tons	Tons	Bu	Bu	Tons	Tons
Tawcaw:							
[2]TC:							
Tawcaw part	---	---	---	---	---	---	---
Chastain part	---	---	---	---	---	---	---
Tomotley:							
To	350	12.0	7	225	375	10.0	---
Udorthents:							
UL, US	---	---	---	---	---	---	---
Wahee:							
Wa	375	11.0	6	200	275	10.0	---
Wando:							
Wd	175	6.0	3	180	250	5.5	---
Williman:							
Wn	300	11.0	5	200	275	9.0	---
Yemassee:							
Ye	325	12.0	7	310	450	11.0	---
Yonges:							
Yo	325	8.0	6	300	375	11.0	---
[2]YR:							
Yonges part	325	8.0	6	300	375	11.0	---
Argent part	350	7.0	5	175	250	---	---

[1]Leafy vegetables include turnips (tops), mustard greens, broccoli, and kale.

[2]This map unit is made up of two or more dominant kinds of soil. See description of the map unit for composition and behavior characteristics of the whole map unit.

TABLE 9.--WOODLAND MANAGEMENT AND PRODUCTIVITY

[Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available]

Soil name and map symbol	Woodland suitability group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Potential productivity: Important trees	Potential productivity: Site index	Trees to plant
Albany:							
Aa	3w2	Slight	Moderate	Moderate	Loblolly pine	80	Loblolly pine, slash pine.
					Slash pine	80	
					Longleaf pine	67	
[1]AB:							
Albany part	3w2	Slight	Moderate	Moderate	Loblolly pine	80	Loblolly pine, slash pine.
					Slash pine	80	
					Longleaf pine	67	
Blanton part	3s2	Slight	Moderate	Moderate	Slash pine	80	Slash pine.
					Loblolly pine	80	
					Longleaf pine	70	
[1]AC:							
Albany part	3w2	Slight	Moderate	Moderate	Loblolly pine	80	Loblolly pine, slash pine.
					Slash pine	80	
					Longleaf pine	67	
Pelham part	2w3	Slight	Severe	Severe	Slash pine	90	Slash pine, loblolly pine.
					Loblolly pine	90	
					Longleaf pine	74	
					Sweetgum	80	
					Blackgum	80	
					Water oak	80	
Ocilla part	3w2	Slight	Moderate	Moderate	Loblolly pine	79	Loblolly pine, slash pine.
					Slash pine	80	
					Longleaf pine	68	
Argent:							
Ae, Ag, [1]AN	1w9	Slight	Severe	Moderate	Loblolly pine	96	Loblolly pine, slash pine, sweetgum, American sycamore, longleaf pine.
					Slash pine	96	
					Sweetgum	96	
					Water oak	96	
					Water tupelo	---	
					Longleaf pine	85	
[1]AO:							
Argent part	1w9	Slight	Severe	Moderate	Loblolly pine	96	Loblolly pine, slash pine, sweetgum, American sycamore, longleaf pine.
					Slash pine	96	
					Sweetgum	96	
					Water oak	96	
					Water tupelo	---	
					Longleaf pine	85	
Okeetee part	2w8	Slight	Moderate	Moderate	Loblolly pine	90	Loblolly pine, slash pine, longleaf pine, shortleaf pine, sweetgum, American sycamore, yellow-poplar.
					Slash pine	90	
					Longleaf pine	75	
					Sweetgum	90	
					Water tupelo	---	
					White oak	---	
					Southern red oak	---	
					Water oak	---	
Barataria:							
Ba	3w2	Slight	Moderate	Slight	Loblolly pine	80	Slash pine, loblolly pine.
					Slash pine	80	
					Longleaf pine	72	
Bertie:							
Bb	2w8	Slight	Moderate	Slight	Loblolly pine	90	Loblolly pine, slash pine, sweetgum.
					Slash pine	90	
					Sweetgum	86	

See footnote at end of table.

TABLE 9.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Woodland suitability group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Potential productivity: Important trees	Potential productivity: Site index	Trees to plant
Bertie:							
[1]BC:							
Bertie part-----	2w8	Slight	Moderate	Slight	Loblolly pine--------	90	Loblolly pine,
					Slash pine-----------	90	slash pine,
					Sweetgum-------------	86	sweetgum.
Coosaw part-----	3w2	Slight	Moderate	Moderate	Slash pine-----------	80	Slash pine,
					Loblolly pine--------	79	loblolly pine.
					Longleaf pine--------	68	
Tomotley part---	2w9	Slight	Severe	Severe	Loblolly pine--------	94	Loblolly pine,
					Slash pine-----------	91	slash pine,
					Sweetgum-------------	90	sweetgum,
					Water tupelo---------	---	American sycamore.
Bladen:							
Bd----------------	2w9	Slight	Severe	Severe	Loblolly pine--------	94	Loblolly pine,
					Slash pine-----------	91	slash pine,
					Sweetgum-------------	90	American sycamore,
							water oak,
							Nuttall oak.
Blanton:							
BeB, BeC----------	3s2	Slight	Moderate	Moderate	Slash pine-----------	80	Slash pine,
					Loblolly pine--------	80	longleaf pine.
					Longleaf pine--------	70	
Bonneau:							
BnA---------------	2w2	Slight	Moderate	Moderate	Loblolly pine--------	95	Loblolly pine,
					Longleaf pine--------	75	longleaf pine.
Buncombe:							
[1]BR---------------	2s8	Slight	Moderate	Moderate	Loblolly pine--------	86	Loblolly pine,
							longleaf pine.
[1]BS:							
Buncombe part---	2s8	Slight	Moderate	Moderate	Loblolly pine--------	86	Loblolly pine,
							longleaf pine.
Santee part-----	1w9	Slight	Severe	Severe	Loblolly pine--------	105	Loblolly pine,
					Sweetgum-------------	100	sweetgum,
					Water tupelo---------	80	water tupelo,
					Willow oak-----------	90	American sycamore.
Cape Fear:							
Ca----------------	2w9	Slight	Severe	Severe	Sweetgum-------------	90	Loblolly pine,
					Loblolly pine--------	90	water tupelo,
					Water oak------------	90	American sycamore,
					Water tupelo---------	---	sweetgum,
					Baldcypress----------	---	slash pine.
Chipley:							
ChA---------------	2s2	Slight	Moderate	Slight	Slash pine-----------	90	Slash pine,
					Loblolly pine--------	90	loblolly pine.
					Longleaf pine--------	80	
[1]CK:							
Chipley part----	2s2	Slight	Moderate	Slight	Slash pine-----------	90	Slash pine,
					Loblolly pine--------	90	loblolly pine.
					Longleaf pine--------	80	
Pelham part-----	2w3	Slight	Severe	Severe	Slash pine-----------	90	Slash pine,
					Loblolly pine--------	90	loblolly pine.
					Longleaf pine--------	74	
					Sweetgum-------------	80	
					Blackgum-------------	80	
					Water oak------------	80	

See footnote at end of table.

TABLE 9.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Woodland suitability group	Management concerns			Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Important trees	Site index	
Chipley:							
[1]CK:							
Echaw part	3w2	Slight	Moderate	Slight	Longleaf pine	68	Longleaf pine, loblolly pine, slash pine, shortleaf pine.
					Loblolly pine	85	
					Slash pine	80	
Chisolm:							
CmB	3s2	Slight	Moderate	Moderate	Loblolly pine	82	Slash pine, longleaf pine.
					Slash pine	80	
					Longleaf pine	67	
Coosaw:							
Cs	3w2	Slight	Moderate	Moderate	Slash pine	80	Slash pine, loblolly pine.
					Loblolly pine	79	
					Longleaf pine	68	
Coxville:							
Cx	2w9	Slight	Severe	Severe	Loblolly pine	90	Loblolly pine, slash pine, sweetgum, American sycamore.
					Slash pine	90	
					Longleaf pine	71	
					Sweetgum	90	
					Water oak	90	
					Willow oak	---	
					Water tupelo	---	
Deloss:							
De	1w9	Slight	Severe	Severe	Loblolly pine	96	Slash pine, loblolly pine, American sycamore, water tupelo, sweetgum.
					Slash pine	93	
					Pond pine	77	
					Water tupelo	---	
					Sweetgum	---	
					Willow oak	---	
Echaw:							
Ec	3w2	Slight	Moderate	Slight	Longleaf pine	68	Longleaf pine, loblolly pine, slash pine, shortleaf pine.
					Loblolly pine	85	
					Slash pine	80	
Eddings:							
EdB	3s2	Slight	Moderate	Moderate	Loblolly pine	80	Slash pine, longleaf pine.
					Slash pine	80	
					Longleaf pine	70	
Eulonia:							
Ee, [1]EU	2w8	Slight	Moderate	Moderate	Loblolly pine	90	Loblolly pine, slash pine, American sycamore, sweetgum, yellow-poplar.
					Slash pine	88	
					Water oak	90	
					Sweetgum	90	
					Blackgum	---	
					Southern red oak	---	
Fripp:							
[1]Fb:							
Fripp part	4s2	Slight	Moderate	Moderate	Slash pine	70	Slash pine, longleaf pine, loblolly pine, sand pine.
					Longleaf pine	60	
					Loblolly pine	70	
					Sand pine	---	
Baratari part	3w2	Slight	Moderate	Slight	Loblolly pine	80	Slash pine, loblolly pine.
					Slash pine	80	
					Longleaf pine	72	
Goldsboro:							
GoA	2w8	Slight	Slight	Slight	Loblolly pine	90	Loblolly pine, slash pine, yellow-poplar, American sycamore, sweetgum.
					Slash pine	93	
					Longleaf pine	77	
					Sweetgum	90	
					Southern red oak	---	
					White oak	---	

See footnote at end of table.

TABLE 9.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Wood-land suita-bility group	Management concerns: Erosion hazard	Management concerns: Equip-ment limita-tion	Management concerns: Seedling mortal-ity	Potential productivity: Important trees	Potential productivity: Site index	Trees to plant
Lakeland:							
LaB	4s2	Slight	Moderate	Moderate	Loblolly pine	75	Slash pine, longleaf pine.
					Slash pine	75	
					Longleaf pine	61	
Levy:							
[1]LE	3w3	Slight	Severe	Severe	Water tupelo	---	Baldcypress.
					Sweetgum	---	
					Red maple	---	
					Baldcypress	---	
Lynchburg:							
Ln	2w8	Slight	Moderate	Slight	Slash pine	91	Slash pine, loblolly pine, American sycamore, sweetgum.
					Loblolly pine	86	
					Longleaf pine	74	
					Yellow-poplar	92	
					Sweetgum	90	
					Southern red oak	---	
					White oak	---	
					Blackgum	---	
Lynn Haven:							
Ly	3w2	Slight	Moderate	Moderate	Slash pine	80	Slash pine, loblolly pine.
					Loblolly pine	80	
					Longleaf pine	70	
					Pond pine	70	
Murad:							
Mu	3w2	Slight	Moderate	Moderate	Slash pine	80	Slash pine, loblolly pine.
					Loblolly pine	80	
					Longleaf pine	67	
Nemours:							
NeA, NeB	3w2	Slight	Moderate	Slight	Loblolly pine	80	Loblolly pine, slash pine.
					Slash pine	80	
					Longleaf pine	70	
					Water oak	80	
Norfolk:							
NoA, NoB	2o1	Slight	Slight	Slight	Loblolly pine	86	Slash pine, loblolly pine.
					Longleaf pine	68	
					Slash pine	86	
Ocilla:							
Oc	3w2	Slight	Moderate	Moderate	Loblolly pine	79	Loblolly pine, slash pine.
					Slash pine	80	
					Longleaf pine	68	
Okeetee:							
Oe	2w8	Slight	Moderate	Moderate	Loblolly pine	90	Loblolly pine, slash pine, longleaf pine, shortleaf pine, sweetgum, American sycamore, yellow-poplar.
					Slash pine	90	
					Longleaf pine	75	
					Sweetgum	90	
					Water tupelo	---	
					White oak	---	
					Southern red oak	---	
					Water oak	---	
[1]OK:							
Okeetee part	2w8	Slight	Moderate	Moderate	Loblolly pine	90	Loblolly pine, slash pine, longleaf pine, shortleaf pine, sweetgum, American sycamore, yellow-poplar.
					Slash pine	90	
					Longleaf pine	75	
					Sweetgum	90	
					Water tupelo	---	
					White oak	---	
					Southern red oak	---	
					Water oak	---	

See footnote at end of table.

TABLE 9.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Woodland suitability group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Potential productivity: Important trees	Potential productivity: Site index	Trees to plant
Okeetee:							
[1]OK:							
Eulonia part----	2w8	Slight	Moderate	Moderate	Loblolly pine--------	90	Loblolly pine,
					Slash pine-----------	88	slash pine,
					Water oak------------	90	American sycamore,
					Sweetgum-------------	90	sweetgum,
					Blackgum-------------	---	yellow-poplar.
					Southern red oak-----	---	
Onslow:							
On----------------	3w8	Slight	Moderate	Slight	Loblolly pine--------	76	Slash pine,
					Slash pine-----------	80	loblolly pine.
					Longleaf pine--------	67	
Osier:							
Os----------------	3w3	Slight	Severe	Severe	Slash pine-----------	80	Slash pine,
					Loblolly pine--------	80	loblolly pine.
					Longleaf pine--------	68	
Paxville:							
Pa, [1]PB-----------	1w9	Slight	Severe	Severe	Loblolly pine--------	96	Loblolly pine,
					Slash pine-----------	92	slash pine,
					Pond pine------------	77	American sycamore,
					Water oak------------	90	water tupelo.
					Water tupelo---------	---	
					Baldcypress----------	---	
Pelham:							
Pe----------------	2w3	Slight	Severe	Severe	Slash pine-----------	90	Slash pine,
					Loblolly pine--------	90	loblolly pine.
					Longleaf pine--------	74	
					Sweetgum-------------	80	
					Blackgum-------------	80	
					Water oak------------	80	
Pickney:							
Pk----------------	1w9	Slight	Severe	Severe	Baldcypress----------	---	Baldcypress,
					Water tupelo---------	---	water tupelo,
					Sweetgum-------------	---	sweetgum,
					Water oak------------	---	loblolly pine,
					Yellow-poplar--------	---	longleaf pine,
					Loblolly pine--------	100	yellow-poplar.
					Longleaf pine--------	70	
					Pond pine------------	---	
Polawana:							
Po----------------	1w9	Slight	Severe	Severe	Loblolly pine--------	98	Loblolly pine,
					Sweetgum-------------	96	slash pine,
					Water oak------------	96	sweetgum,
					Water tupelo---------	---	water tupelo.
					Baldcypress----------	---	
					Slash pine-----------	98	
Rains:							
Ra, [1]RB-----------	2w9	Slight	Severe	Severe	Loblolly pine--------	94	Loblolly pine,
					Slash pine-----------	91	slash pine,
					Sweetgum-------------	90	sweetgum,
							American sycamore.
[1]RC:							
Rains part------	2w9	Slight	Severe	Severe	Loblolly pine--------	94	Loblolly pine,
					Slash pine-----------	91	slash pine,
					Sweetgum-------------	90	sweetgum,
							American sycamore.

See footnote at end of table.

TABLE 9.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Woodland suitability group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Potential productivity: Important trees	Potential productivity: Site index	Trees to plant
Rains:							
[1]RC:							
Lynchburg part	2w8	Slight	Moderate	Slight	Slash pine	91	Slash pine, loblolly pine, American sycamore, sweetgum.
					Loblolly pine	86	
					Longleaf pine	74	
					Yellow-poplar	92	
					Sweetgum	90	
					Southern red oak	---	
					White oak	---	
					Blackgum	---	
Ridgeland:							
Rd	3w2	Slight	Moderate	Moderate	Loblolly pine	80	Loblolly pine, slash pine, longleaf pine.
					Slash pine	80	
					Longleaf pine	80	
Rosedhu:							
Ro	4w3	Slight	Severe	Severe	Slash pine	70	Slash pine, loblolly pine.
					Loblolly pine	70	
					Longleaf pine	60	
Santee:							
Sa, [1]SE	1w9	Slight	Severe	Severe	Loblolly pine	105	Loblolly pine, sweetgum, water tupelo, American sycamore.
					Sweetgum	100	
					Water tupelo	80	
					Willow oak	90	
Seabrook:							
Sk	3s2	Slight	Moderate	Moderate	Loblolly pine	87	Loblolly pine, slash pine, longleaf pine.
					Slash pine	87	
					Longleaf pine	70	
Seewee:							
Sw	2w8	Slight	Moderate	Slight	Longleaf pine	75	Loblolly pine, slash pine.
					Loblolly pine	90	
					Sweetgum	90	
					Slash pine	90	
Tawcaw:							
[1]TC:							
Tawcaw part	1w8	Slight	Moderate	Moderate	Loblolly pine	100	Loblolly pine, eastern cottonwood, American sycamore, sweetgum, water oak, cherrybark oak.
					Sweetgum	100	
					Water oak	90	
					Water tupelo	---	
Chastain part	2w9	Slight	Severe	Severe	Sweetgum	94	Loblolly pine, American sycamore, sweetgum, cherrybark oak.
					Water oak	89	
					Eastern cottonwood	90	
					Green ash	88	
					Loblolly pine	90	
					Water tupelo	---	
					White oak	---	
					Southern red oak	---	
					Baldcypress	---	
Tomotley:							
To	2w9	Slight	Severe	Severe	Loblolly pine	94	Loblolly pine, slash pine, sweetgum, American sycamore.
					Slash pine	91	
					Sweetgum	90	
					Water tupelo	---	
Udorthents:							
UL	3r3	Moderate	Severe	Moderate	Loblolly pine	---	Loblolly pine, slash pine.
					Slash pine	---	

See footnote at end of table.

TABLE 9.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Wood-land suita-bility group	Management concerns			Potential productivity		Trees to plant
		Erosion hazard	Equip-ment limita-tion	Seedling mortal-ity	Important trees	Site index	
Udorthents							
US	3s2	Slight	Moderate	Slight	Slash pine	---	Loblolly pine, slash pine.
					Loblolly pine	---	
					Longleaf pine	---	
Wahee:							
Wa	2w8	Slight	Moderate	Moderate	Loblolly pine	86	Loblolly pine, slash pine, sweetgum, American sycamore, water oak.
					Slash pine	86	
					Sweetgum	90	
					Water oak	---	
Wando:							
Wd	3s2	Slight	Moderate	Moderate	Longleaf pine	70	Loblolly pine, longleaf pine, slash pine.
					Loblolly pine	80	
					Slash pine	80	
Williman:							
Wn	2w3	Slight	Severe	Severe	Slash pine	90	Slash pine, loblolly pine.
					Loblolly pine	90	
					Longleaf pine	74	
					Sweetgum	---	
					Blackgum	---	
					Water oak	---	
Yemassee:							
Ye	2w8	Slight	Moderate	Slight	Loblolly pine	90	Slash pine, loblolly pine, American sycamore, yellow-poplar.
					Slash pine	88	
					Sweetgum	95	
					Southern red oak	---	
					White oak	---	
					Yellow-poplar	100	
Yonges:							
Yo	1w9	Slight	Severe	Severe	Loblolly pine	105	Loblolly pine, slash pine, sweetgum, American sycamore, water tupelo.
					Sweetgum	100	
					Water oak	100	
[1]YR:							
Yonges part	1w9	Slight	Severe	Severe	Loblolly pine	105	Loblolly pine, slash pine, sweetgum, American sycamore, water tupelo.
					Sweetgum	100	
					Water oak	100	
Argent part	1w9	Slight	Severe	Moderate	Loblolly pine	96	Loblolly pine, slash pine, sweetgum, American sycamore, longleaf pine.
					Slash pine	96	
					Sweetgum	96	
					Water oak	96	
					Water tupelo	---	
					Longleaf pine	85	

[1]This map unit is made up of two or more dominant kinds of soil. See description of the map unit for composition and behavior characteristics of the whole map unit.

TABLE 10.--BUILDING SITE DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
Albany:					
Aa	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
[1]AB:					
Albany part	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
Blanton part	Severe: cutbanks cave.	Slight	Slight	Slight	Slight.
[1]AC:					
Albany part	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
Pelham part	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Ocilla part	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
Argent:					
Ae, Ag, [1]AN	Severe: too clayey, floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: low strength, floods, wetness.
[1]AO:					
Argent part	Severe: too clayey, floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: low strength, floods, wetness.
Okeetee part	Severe: wetness, too clayey.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: low strength, wetness.
Baratari:					
Ba	Severe: cutbanks cave, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Bertie:					
Bb	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Slight.
[1]BC:					
Bertie part	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Slight.
Coosaw part	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
Tomotley part	Severe: wetness.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness.
Bladen:					
Bd	Severe: wetness, floods, too clayey.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods. low strength.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
Blanton:					
BeB	Severe: cutbanks cave.	Slight	Slight	Slight	Slight.
BeC	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight.
Bohicket:					
[1]BK	Severe: floods, too clayey, wetness.	Severe: floods, shrink-swell, low strength.	Severe: floods, shrink-swell, low strength.	Severe: floods, shrink-swell, low strength.	Severe: floods, shrink-swell, low strength.
Bonneau:					
BnA	Moderate: wetness.	Slight	Moderate: wetness.	Slight	Slight.
Borrow pit:					
Bp.					
Buncombe:					
[1]BR	Severe: floods, cutbanks cave.	Severe: floods.	Severe: floods.	Severe: floods.	Severe: floods.
[1]BS:					
Buncombe part	Severe: floods, cutbanks cave.	Severe: floods.	Severe: floods.	Severe: floods.	Severe: floods.
Santee part	Severe: too clayey, floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness, low strength.
Cape Fear:					
Ca	Severe: wetness, floods, too clayey.	Severe: wetness, floods, low strength.	Severe: wetness, floods, low strength.	Severe: wetness, floods, low strength.	Severe: wetness, floods, low strength.
Capers:					
[1]CE	Severe: floods, wetness, too clayey.	Severe: floods, low strength, shrink-swell.	Severe: floods, low strength, shrink-swell.	Severe: floods, low strength, shrink-swell.	Severe: floods, low strength, shrink-swell.
Chipley:					
ChA	Severe: cutbanks cave.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
[1]CK:					
Chipley part	Severe: cutbanks cave.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
Pelham part	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Echaw part	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
Chisolm:					
CmB	Moderate: wetness.	Slight	Moderate: wetness.	Slight	Slight.
Coastal beaches:					
Co.					

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
Coosaw:					
Cs	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
Coxville:					
Cx	Severe: wetness, too clayey.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, low strength.
Deloss:					
De	Severe: wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Echaw:					
Ec	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
Eddings:					
EdB	Severe: cutbanks cave.	Slight	Moderate: wetness.	Slight	Slight.
Eulonia:					
Ee, [1]EU	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, corrosive.	Moderate: low strength.
Fluvaquents:					
[1]FA:					
Fluvaquents part	Severe: wetness, too clayey.	Severe: wetness, low strength.	Severe: wetness, low strength.	Severe: wetness, low strength.	Severe: wetness, low strength.
Udipsamments part	Severe: cutbanks cave.	Slight	Slight	Slight	Slight.
Fripp:					
[1]Fb:					
Fripp part	Severe: cutbanks cave.	Severe: floods.	Severe: floods.	Severe: floods.	Moderate: floods, slope.
Baratari part	Severe: cutbanks cave, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Goldsboro:					
GoA	Moderate: wetness.	Slight	Moderate: wetness.	Moderate: wetness.	Slight.
Handsboro:					
[1]HA	Severe: floods, excess humus, wetness.	Severe: floods, wetness, low strength.	Severe: floods, wetness, low strength.	Severe: floods, wetness, low strength.	Severe: floods, wetness, low strength.
Hobonny:					
[1]HB	Severe: floods, excess humus, cutbanks cave.	Severe: floods, excess humus, low strength.	Severe: floods, excess humus, low strength.	Severe: floods, excess humus, low strength.	Severe: floods, excess humus, low strength.
Lakeland:					
LaB	Severe: cutbanks cave.	Slight	Slight	Slight	Slight.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
Levy:					
[1]LE	Severe: floods, wetness, too clayey.	Severe: floods, shrink-swell, low strength.	Severe: floods, shrink-swell, low strength.	Severe: floods, shrink-swell, low strength.	Severe: floods, shrink-swell, low strength.
Lynchburg:					
Ln	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, corrosive.	Moderate: wetness.
Lynn Haven:					
Ly	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: corrosive, wetness.	Severe: wetness.
Murad:					
Mu	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
Nemours:					
NeA, NeB	Severe: too clayey, wetness.	Moderate: wetness, shrink-swell, low strength.	Severe: wetness.	Moderate: wetness, shrink-swell, low strength.	Severe: low strength.
Norfolk:					
NoA	Slight	Slight	Slight	Slight	Slight.
NoB	Slight	Slight	Slight	Moderate: slope.	Slight.
Ocilla:					
Oc	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
Okeetee:					
Oe	Severe: wetness, too clayey.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: low strength, wetness.
[1]OK:					
Okeetee part	Severe: wetness, too clayey.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: low strength, wetness.
Eulonia part	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, corrosive.	Moderate: low strength.
Onslow:					
On	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Slight.
Osier:					
Os	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Paxville:					
Pa, [1]PB	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Pelham:					
Pe	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
Pickney:					
Pk	Severe: cutbanks cave, floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Polawana:					
Po	Severe: cutbanks cave, floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: corrosive, floods, wetness.	Severe: floods, wetness.
Rains:					
Ra, [1]RB	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods, corrosive.	Severe: wetness, floods.
[1]RC:					
Rains part	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods, corrosive.	Severe: wetness, floods.
Lynchburg part	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, corrosive.	Moderate: wetness.
Ridgeland:					
Rd	Severe: wetness, cutbanks cave.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness.
Rosedhu:					
Ro	Severe: cutbanks cave, floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Santee:					
Sa, [1]SE	Severe: too clayey, floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness, low strength.
Seabrook:					
Sk	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
Seewee:					
Sw	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness.
Tawcaw:					
[1]TC:					
Tawcaw part	Severe: floods, wetness, too clayey.	Severe: floods, low strength.	Severe: floods, wetness, low strength.	Severe: floods, wetness, low strength.	Severe: floods, low strength.
Chastain part	Severe: floods, wetness, too clayey.	Severe: floods, wetness, low strength.	Severe: floods, wetness, low strength.	Severe: floods, wetness, low strength.	Severe: floods, wetness, low strength.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
Tomotley:					
To	Severe: wetness.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness.
Udorthents:					
UL	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
US	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
Wahee:					
Wa	Severe: wetness, floods, too clayey.	Severe: wetness, floods, low strength.	Severe: wetness, floods, low strength.	Severe: wetness, floods, low strength.	Severe: floods, low strength.
Wando:					
Wd	Severe: cutbanks cave.	Slight	Slight	Slight	Slight.
Williman:					
Wn	Severe: wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness, corrosive.	Severe: wetness.
Yemassee:					
Ye	Severe: wetness.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, corrosive, floods.	Moderate: wetness.
Yonges:					
Yo	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.
[1]YR:					
Yonges part	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.
Argent part	Severe: too clayey, floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: low strength, floods, wetness.

[1]This map unit is made up of two or more dominant kinds of soil. See description of the map unit for composition and behavior characteristics of the whole map unit.

TABLE 11.--SANITARY FACILITIES

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," "good," and "fair." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Albany:					
Aa	Severe: wetness.	Severe: seepage.	Severe: wetness.	Severe: wetness.	Fair: too sandy.
[1]AB:					
Albany part	Severe: wetness.	Severe: seepage.	Severe: wetness.	Severe: wetness.	Fair: too sandy.
Blanton part	Slight	Severe: seepage.	Severe: too sandy.	Slight	Poor: too sandy, seepage.
[1]AC:					
Albany part	Severe: wetness.	Severe: seepage.	Severe: wetness.	Severe: wetness.	Fair: too sandy.
Pelham part	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Poor: wetness.
Ocilla part	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Good.
Argent:					
Ae, Ag, [1]AN	Severe: percs slowly, floods, wetness.	Slight	Severe: too clayey, floods, wetness.	Severe: floods, wetness.	Poor: too clayey, wetness.
[1]AO:					
Argent part	Severe: percs slowly, floods, wetness.	Slight	Severe: too clayey, floods, wetness.	Severe: floods, wetness.	Poor: too clayey, wetness.
Okeetee part	Severe: percs slowly, wetness.	Slight	Severe: wetness.	Severe: wetness.	Poor: wetness, too clayey.
Baratari:					
Ba	Severe: wetness.	Severe: seepage, floods, wetness.	Severe: seepage, too sandy, wetness.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Bertie:					
Bb	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Good.
[1]BC:					
Bertie part	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Good.
Coosaw part	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Good.
Tomotley part	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
Bladen:					
Bd	Severe: wetness, floods, percs slowly.	Slight	Severe: wetness, floods, too clayey.	Severe: wetness, floods.	Poor: wetness, too clayey.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Blanton:					
BeB, BeC	Slight	Severe: seepage.	Moderate: too sandy.	Slight	Poor: too sandy, seepage.
Bohicket:					
[1]BK	Severe: floods, percs slowly, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Poor: too clayey, wetness.
Bonneau:					
BnA	Moderate: wetness.	Severe: seepage.	Severe: wetness, seepage.	Moderate: wetness.	Fair: too sandy.
Borrow pit:					
Bp.					
Buncombe:					
[1]BR	Severe: floods.	Severe: floods, seepage.	Severe: floods, seepage.	Severe: floods, seepage.	Fair: too sandy.
[1]BS:					
Buncombe part	Severe: floods.	Severe: floods, seepage.	Severe: floods, seepage.	Severe: floods, seepage.	Fair: too sandy.
Santee part	Severe: percs slowly, floods, wetness.	Slight	Severe: too clayey, floods, wetness.	Severe: floods, wetness.	Poor: too clayey, wetness.
Cape Fear:					
Ca	Severe: wetness, floods, percs slowly.	Severe: floods, wetness.	Severe: floods, wetness, too clayey.	Severe: floods, wetness.	Poor: wetness, too clayey.
Capers:					
[1]CE	Severe: wetness, floods, percs slowly.	Severe: floods, wetness.	Severe: floods, wetness, too clayey.	Severe: floods, wetness.	Poor: too clayey, wetness.
Chipley:					
ChA	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Severe: seepage.	Poor: too sandy, seepage.
[1]CK:					
Chipley part	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Severe: seepage.	Poor: too sandy, seepage.
Pelham part	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Poor: wetness.
Echaw part	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, too sandy, wetness.	Severe: seepage, wetness.	Fair: too sandy, seepage.
Chisolm:					
CmB	Moderate: wetness.	Severe: seepage.	Severe: wetness.	Moderate: wetness.	Fair: too sandy.
Coastal beaches:					
Co.					

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Coosaw:					
Cs	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Good.
Coxville:					
Cx	Severe: wetness, percs slowly.	Moderate: wetness.	Severe: wetness, too clayey.	Severe: wetness.	Poor: wetness, too clayey.
Deloss:					
De	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
Echaw:					
Ec	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, too sandy, wetness.	Severe: seepage, wetness.	Fair: too sandy, seepage.
Eddings:					
EdB	Slight	Severe: seepage.	Moderate: seepage, too sandy.	Slight	Fair: seepage, too sandy.
Eulonia:					
Ee, [1]EU	Severe: percs slowly, wetness.	Moderate: wetness.	Severe: wetness.	Severe: wetness.	Fair: too clayey.
Fluvaquents:					
[1]FA:					
Fluvaquents part	Severe: percs slowly, wetness.	Slight	Severe: wetness, too clayey.	Severe: wetness.	Poor: wetness, too clayey.
Udipsamments part	Slight	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
Fripp:					
[1]Fb:					
Fripp part	Moderate: slope.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
Baratari part	Severe: wetness.	Severe: seepage, floods, wetness.	Severe: seepage, too sandy, wetness.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Goldsboro:					
GoA	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Good.
Handsboro:					
[1]HA	Severe: wetness, floods.	Severe: wetness, floods, excess humus.	Severe: wetness, floods, excess humus.	Severe: floods, wetness.	Poor: excess humus, wetness, floods.
Hobonny:					
[1]HB	Severe: floods, wetness.	Severe: floods, excess humus, wetness.	Severe: floods, excess humus, wetness.	Severe: floods, wetness.	Poor: wetness, excess humus.
Lakeland:					
LaB	Slight	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy, seepage.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Levy:					
[1]LE	Severe: floods, percs slowly, wetness.	Severe: floods, wetness.	Severe: floods, too clayey, wetness.	Severe: floods, wetness.	Poor: wetness, too clayey.
Lynchburg:					
Ln	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Good.
Lynn Haven:					
Ly	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: too sandy, wetness.
Murad:					
Mu	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, too sandy, wetness.	Severe: seepage, wetness.	Fair: seepage, too sandy.
Nemours:					
NeA	Severe: percs slowly, wetness.	Slight	Severe: too clayey, wetness.	Severe: wetness.	Poor: too clayey.
NeB	Severe: percs slowly, wetness.	Moderate: slope.	Severe: too clayey, wetness.	Severe: wetness.	Poor: too clayey.
Norfolk:					
NoA	Slight	Moderate: seepage.	Slight	Slight	Good.
NoB	Slight	Moderate: slope, seepage.	Slight	Slight	Good.
Ocilla:					
Oc	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Good.
Okeetee:					
Oe	Severe: percs slowly, wetness.	Slight	Severe: wetness, too clayey.	Severe: wetness.	Poor: wetness, too clayey.
[1]OK:					
Okeetee part	Severe: percs slowly, wetness.	Slight	Severe: wetness.	Severe: wetness.	Poor: wetness, too clayey.
Eulonia part	Severe: percs slowly, wetness.	Moderate: wetness.	Severe: wetness.	Severe: wetness.	Fair: too clayey.
Onslow:					
On	Severe: wetness.	Severe: wetness.	Severe: wetness, seepage.	Severe: wetness, seepage.	Good.
Osier:					
Os	Severe: floods, wetness.	Severe: floods, seepage.	Severe: floods, wetness.	Severe: floods, wetness.	Poor: wetness, too sandy.
Paxville:					
Pa, [1]PB	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Pelham:					
Pe	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Poor: wetness.
Pickney:					
Pk	Severe: floods, wetness.	Severe: floods, seepage, wetness.	Severe: floods, seepage, wetness.	Severe: floods, seepage, wetness.	Poor: seepage, too sandy, wetness.
Polawana:					
Po	Severe: floods, wetness.	Severe: floods, seepage, wetness.	Severe: floods, seepage, wetness.	Severe: floods, seepage, wetness.	Poor: seepage, too sandy, wetness.
Rains:					
Ra, [1]RB	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
[1]RC:					
Rains part	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
Lynchburg part	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Good.
Ridgeland:					
Rd	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.
Rosedhu:					
Ro	Severe: floods, wetness.	Severe: floods, seepage, wetness.	Severe: floods, seepage, wetness.	Severe: floods, seepage, wetness.	Poor: seepage, wetness, too sandy.
Santee:					
Sa, [1]SE	Severe: percs slowly, floods, wetness.	Slight	Severe: too clayey, floods, wetness.	Severe: floods, wetness.	Poor: too clayey, wetness.
Seabrook:					
Sk	Severe: wetness, seepage.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
Seewee:					
Sw	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: wetness, seepage.	Poor: seepage, too sandy.
Tawcaw:					
[1]TC:					
Tawcaw part	Severe: floods, wetness, percs slowly.	Severe: floods.	Severe: floods, wetness, too clayey.	Severe: floods, wetness.	Poor: too clayey.
Chastain part	Severe: floods, wetness, percs slowly.	Severe: floods.	Severe: floods, wetness, too clayey.	Severe: floods, wetness.	Poor: too clayey, wetness.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Tomotley:					
To	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
Udorthents:					
UL	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope, too clayey.
US	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Fair: seepage, too sandy.
Wahee:					
Wa	Severe: wetness, floods, percs slowly.	Slight	Severe: wetness, floods, too clayey.	Severe: wetness, floods.	Poor: too clayey.
Wando:					
Wd	Slight	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
Williman:					
Wn	Severe: wetness.	Severe: wetness.	Severe: floods, wetness.	Severe: wetness.	Poor: wetness.
Yemassee:					
Ye	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Good.
Yonges:					
Yo	Severe: wetness, floods, percs slowly.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Poor: wetness.
[1]YR:					
Yonges part	Severe: wetness, floods, percs slowly.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Poor: wetness.
Argent part	Severe: percs slowly, floods, wetness.	Slight	Severe: too clayey, floods, wetness.	Severe: floods, wetness.	Poor: too clayey, wetness.

[1]This map unit is made up of two or more dominant kinds of soil. See description of the map unit for composition and behavior characteristics of the whole map unit.

TABLE 12.--CONSTRUCTION MATERIALS

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," and "poor." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
Albany:				
Aa	Fair: wetness.	Poor: excess fines.	Unsuited	Poor: too sandy.
[1]AB:				
Albany part	Fair: wetness.	Poor: excess fines.	Unsuited	Poor: too sandy.
Blanton part	Good	Fair: excess fines.	Unsuited	Poor: too sandy.
[1]AC:				
Albany part	Fair: wetness.	Poor: excess fines.	Unsuited	Poor: too sandy.
Pelham part	Poor: wetness.	Poor: excess fines.	Unsuited	Poor: wetness.
Ocilla part	Fair: wetness.	Poor: excess fines.	Unsuited	Poor: too sandy.
Argent:				
Ae, Ag, [1]AN	Poor: wetness, low strength.	Unsuited	Unsuited	Poor: too clayey, wetness.
[1]AO:				
Argent part	Poor: wetness, low strength.	Unsuited	Unsuited	Poor: thin layer, wetness.
Okeetee part	Poor: low strength, wetness.	Unsuited	Unsuited	Poor: thin layer.
Baratari:				
Ba	Poor: wetness.	Fair: excess fines.	Unsuited	Poor: too sandy, wetness.
Bertie:				
Bb	Good	Unsuited	Unsuited	Fair: too sandy.
[1]BC:				
Bertie part	Good	Unsuited	Unsuited	Fair: too sandy.
Coosaw part	Fair: wetness.	Poor: excess fines.	Unsuited	Poor: too sandy.
Tomotley part	Poor: wetness.	Unsuited	Unsuited	Poor: wetness.
Bladen:				
Bd	Poor: wetness, low strength.	Unsuited	Unsuited	Poor: wetness.
Blanton:				
BeB, BeC	Good	Fair: excess fines.	Unsuited	Poor: too sandy.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
Bohicket:				
[1]BK	Poor: shrink-swell, low strength, wetness.	Unsuited	Unsuited	Poor: wetness, too clayey.
Bonneau:				
BnA	Good	Poor: excess fines.	Unsuited	Poor: too sandy.
Borrow pit: Bp.				
Buncombe:				
[1]BR	Good	Fair: excess fines.	Poor: excess fines.	Poor: too sandy.
[1]BS:				
Buncombe part	Good	Fair: excess fines.	Poor: excess fines.	Poor: too sandy.
Santee part	Poor: wetness, low strength.	Unsuited	Unsuited	Poor: too clayey, wetness.
Cape Fear:				
Ca	Poor: wetness, low strength.	Unsuited	Unsuited	Poor: wetness.
Capers:				
[1]CE	Poor: low strength, shrink-swell, wetness.	Unsuited	Unsuited	Poor: too clayey, wetness.
Chipley:				
ChA	Good	Fair: excess fines.	Unsuited	Poor: too sandy.
[1]CK:				
Chipley part	Good	Fair: excess fines.	Unsuited	Poor: too sandy.
Pelham part	Poor: wetness.	Poor: excess fines.	Unsuited	Poor: wetness.
Echaw part	Good	Fair: excess fines.	Unsuited	Poor: too sandy.
Chisolm:				
CmB	Good	Poor: excess fines.	Unsuited	Poor: too sandy.
Coastal beaches: Co.				
Coosaw:				
Cs	Fair: wetness.	Poor: excess fines.	Unsuited	Poor: too sandy.
Coxville:				
Cx	Poor: wetness, low strength.	Unsuited	Unsuited	Poor: wetness.
Deloss:				
De	Poor: wetness.	Unsuited	Unsuited	Poor: wetness.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
Echaw:				
Ec	Good	Fair: excess fines.	Unsuited	Poor: too sandy.
Eddings:				
EdB	Good	Fair: excess fines.	Unsuited	Poor: too sandy.
Eulonia:				
Ee, [1]EU	Fair: low strength.	Unsuited	Unsuited	Fair: thin layer.
Fluvaquents:				
[1]FA:				
Fluvaquents part	Poor: wetness, low strength.	Unsuited	Unsuited	Poor: wetness, too clayey.
Udipsamments part	Good	Good	Fair: excess fines.	Poor: too sandy.
Fripp:				
[1]Fb:				
Fripp part	Good	Good	Unsuited	Poor: too sandy.
Baratari part	Poor: wetness.	Fair: excess fines.	Unsuited	Poor: too sandy, wetness.
Goldsboro:				
GoA	Good	Unsuited	Unsuited	Fair: too sandy.
Handsboro:				
[1]HA	Poor: excess humus, wetness, low strength.	Unsuited	Unsuited	Poor: excess salt, wetness.
Hobonny:				
[1]HB	Poor: wetness, excess humus, low strength.	Unsuited	Unsuited	Poor: wetness.
Lakeland:				
LaB	Good	Good	Unsuited	Poor: too sandy.
Levy:				
[1]LE	Poor: shrink-swell, low strength, wetness.	Unsuited	Unsuited	Poor: wetness.
Lynchburg:				
Ln	Fair: wetness.	Unsuited	Unsuited	Fair: too sandy.
Lynn Haven:				
Ly	Poor: wetness.	Fair	Unsuited	Poor: too sandy, wetness.
Murad:				
Mu	Fair: wetness.	Poor: excess fines.	Unsuited	Poor: too sandy.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
Nemours:				
NeA, NeB	Poor: low strength.	Unsuited	Unsuited	Poor: thin layer.
Norfolk:				
NoA, NoB	Good	Unsuited	Unsuited	Fair: too sandy.
Ocilla:				
Oc	Fair: wetness.	Poor: excess fines.	Unsuited	Poor: too sandy.
Okeetee:				
Oe	Poor: low strength.	Unsuited	Unsuited	Poor: thin layer.
[1]OK:				
Okeetee part	Poor: low strength.	Unsuited	Unsuited	Poor: thin layer.
Eulonia part	Fair: low strength.	Unsuited	Unsuited	Fair: thin layer.
Onslow:				
On	Good	Poor: excess fines.	Unsuited	Poor: too sandy.
Osier:				
Os	Poor: wetness.	Fair: excess fines.	Unsuited	Poor: too sandy, wetness.
Paxville:				
Pa, [1]PB	Poor: wetness.	Unsuited	Unsuited	Poor: wetness.
Pelham:				
Pe	Poor: wetness.	Poor: excess fines.	Unsuited	Poor: wetness.
Pickney:				
Pk	Poor: wetness.	Fair: excess fines.	Unsuited	Poor: too sandy, wetness.
Polawana:				
Po	Poor: wetness.	Poor: excess fines.	Unsuited	Poor: too sandy, wetness.
Rains:				
Ra, [1]RB	Poor: wetness.	Unsuited	Unsuited	Poor: wetness.
[1]RC:				
Rains part	Poor: wetness.	Unsuited	Unsuited	Poor: wetness.
Lynchburg part	Fair: wetness.	Unsuited	Unsuited	Fair: too sandy.
Ridgeland:				
Rd	Fair: wetness.	Fair: excess fines.	Unsuited	Poor: too sandy.
Rosedhu:				
Ro	Poor: wetness.	Fair: excess fines.	Unsuited	Poor: too sandy, wetness.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
Santee:				
Sa, [1]SE	Poor: wetness, low strength.	Unsuited	Unsuited	Poor: too clayey, wetness.
Seabrook:				
Sk	Good	Poor: excess fines.	Unsuited	Poor: too sandy.
Seewee:				
Sw	Fair: wetness.	Fair: excess fines.	Unsuited	Poor: too sandy.
Tawcaw:				
[1]TC:				
Tawcaw part	Poor: low strength.	Unsuited	Unsuited	Poor: too clayey.
Chastain part	Poor: wetness, low strength.	Unsuited	Unsuited	Poor: wetness, too clayey.
Tomotley:				
To	Poor: wetness.	Unsuited	Unsuited	Poor: wetness.
Udorthents:				
UL	Poor: slope.	Unsuited	Unsuited	Poor: slope, too clayey.
US	Good	Fair: excess fines.	Unsuited	Poor: too sandy.
Wahee:				
Wa	Poor: low strength.	Unsuited	Unsuited	Poor: thin layer, area reclaim.
Wando:				
Wd	Good	Fair: excess fines.	Unsuited	Poor: too sandy.
Williman:				
Wn	Poor: wetness.	Unsuited	Unsuited	Poor: wetness.
Yemassee:				
Ye	Fair: wetness.	Unsuited	Unsuited	Fair: too sandy.
Yonges:				
Yo	Poor: wetness.	Unsuited	Unsuited	Poor: wetness.
[1]YR:				
Yonges part	Poor: wetness.	Unsuited	Unsuited	Poor: wetness.
Argent part	Poor: shrink-swell, wetness, low strength.	Unsuited	Unsuited	Poor: too clayey, wetness.

[1]This map unit is made up of two or more dominant kinds of soil. See description of the map unit for composition and behavior characteristics of the whole map unit.

TABLE 13.--WATER MANAGEMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not evaluated]

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Grassed waterways
Albany:						
Aa	Moderate: seepage.	Moderate: seepage.	Severe: slow refill.	Cutbanks cave	Fast intake	Favorable.
[1]AB:						
Albany part	Moderate: seepage.	Moderate: seepage.	Severe: slow refill.	Cutbanks cave	Fast intake	Favorable.
Blanton part	Severe: seepage.	Severe: piping, seepage.	Severe: no water.	Not needed	Droughty, seepage, fast intake.	Droughty.
[1]AC:						
Albany part	Moderate: seepage.	Moderate: seepage.	Severe: slow refill.	Cutbanks cave	Fast intake	Favorable.
Pelham part	Moderate: seepage.	Moderate: piping.	Slight	Favorable	Floods, wetness.	Not needed.
Ocilla part	Moderate: seepage.	Moderate: seepage.	Moderate: slow refill.	Favorable	Fast intake	Not needed.
Argent:						
Ae, Ag, [1]AN	Slight	Moderate: shrink-swell, compressible, low strength.	Slight	Percs slowly, floods, wetness.	Percs slowly, floods, wetness.	Not needed.
[1]AO:						
Argent part	Slight	Moderate: shrink-swell, compressible, low strength.	Slight	Percs slowly, floods, wetness.	Percs slowly, floods, wetness.	Not needed.
Okeetee part	Slight	Moderate: compressible, shrink-swell, low strength.	Moderate: deep to water, slow refill.	Percs slowly, wetness.	Percs slowly, wetness.	Percs slowly, wetness.
Baratari:						
Ba	Severe: seepage.	Severe: seepage, unstable fill.	Moderate: deep to water.	Cutbanks cave, wetness.	Seepage, wetness.	Not needed.
Bertie:						
Bb	Moderate: seepage.	Slight	Moderate: deep to water.	Favorable	Favorable	Favorable.
[1]BC:						
Bertie part	Moderate: seepage.	Slight	Moderate: deep to water.	Favorable	Favorable	Favorable.
Coosaw part	Moderate: seepage.	Moderate: seepage, piping.	Moderate: deep to water.	Favorable	Fast intake, seepage.	Not needed.
Tomotley part	Moderate: seepage.	Slight	Slight	Favorable	Wetness	Not needed.
Bladen:						
Bd	Slight	Moderate: low strength.	Slight	Floods, percs slowly.	Wetness, percs slowly.	Wetness, percs slowly.
Blanton:						
BeB, BeC	Severe: seepage.	Severe: piping, seepage.	Severe: no water.	Not needed	Droughty, seepage, fast intake.	Droughty.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Grassed waterways
Bohicket:						
[1]BK	Slight	Severe: low strength, compressible, shrink-swell.	Severe: salty water.	Floods, percs slowly, wetness.	Not needed	Not needed.
Bonneau:						
BnA	Moderate: seepage.	Moderate: seepage, piping.	Moderate: deep to water.	Not needed	Fast intake, seepage.	Not needed.
Borrow pit: Bp.						
Buncombe:						
[1]BR	Severe: seepage.	Severe: seepage.	Severe: deep to water.	Not needed	Floods, fast intake.	Not needed.
[1]BS:						
Buncombe part	Severe: seepage.	Severe: seepage.	Severe: deep to water.	Not needed	Floods, fast intake.	Not needed.
Santee part	Slight	Moderate: compressible, low strength.	Slight	Percs slowly, floods, wetness.	Percs slowly, floods, wetness.	Not needed.
Cape Fear:						
Ca	Slight	Moderate: compressible.	Slight	Floods, percs slowly, poor outlets.	Wetness, percs slowly.	Not needed.
Capers:						
[1]CE	Severe: excess humus.	Severe: low strength, shrink-swell.	Severe: slow refill.	Floods, percs slowly.	Floods, percs slowly.	Not needed.
Chipley:						
ChA	Severe: seepage.	Severe: seepage, piping, unstable fill.	Moderate: deep to water.	Cutbanks cave	Fast intake	Not needed.
[1]CK:						
Chipley part	Severe: seepage.	Severe: seepage, piping, unstable fill.	Moderate: deep to water.	Cutbanks cave	Fast intake	Not needed.
Pelham part	Moderate: seepage.	Moderate: piping.	Slight	Favorable	Floods, wetness.	Not needed.
Echaw part	Severe: seepage.	Severe: seepage, unstable fill, piping.	Severe: deep to water.	Cutbanks cave	Seepage, fast intake.	Not needed.
Chisolm:						
CmB	Moderate: seepage.	Moderate: seepage, piping.	Severe: deep to water.	Not needed	Fast intake, seepage.	Not needed.
Coastal beaches: Co.						
Coosaw:						
Cs	Moderate: seepage.	Moderate: seepage, piping.	Moderate: deep to water.	Favorable	Fast intake, seepage.	Not needed.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Grassed waterways
Coxville:						
Cx	Slight	Moderate: compressible.	Slight	Wetness, percs slowly.	Wetness, percs slowly.	Not needed.
Deloss:						
De	Moderate: seepage.	Slight	Slight	Favorable	Wetness	Not needed.
Echaw:						
Ec	Severe: seepage.	Severe: seepage, unstable fill, piping.	Severe: deep to water.	Cutbanks cave	Seepage, fast intake.	Not needed.
Eddings:						
EdB	Severe: seepage.	Moderate: seepage, piping.	Severe: deep to water.	Not needed	Fast intake, seepage.	Not needed.
Eulonia:						
Ee, [1]EU	Moderate: seepage.	Moderate: compressible.	Moderate: deep to water.	Favorable	Favorable	Favorable.
Fluvaquents:						
[1]FA:						
Fluvaquents part	Slight	Severe: low strength.	Slight	Wetness, percs slowly.	Wetness, percs slowly.	Not needed.
Udipsamments part	Severe: seepage.	Severe: seepage.	Severe: deep to water.	Not needed	Too sandy, fast intake, seepage.	Not needed.
Fripp:						
[1]Fb:						
Fripp part	Severe: seepage.	Severe: seepage, piping, unstable fill.	Severe: deep to water.	Not needed	Droughty, fast intake, seepage.	Droughty, erodes easily.
Baratari part	Severe: seepage.	Severe: seepage, unstable fill.	Moderate: deep to water.	Cutbanks cave, wetness.	Seepage, wetness.	Not needed.
Goldsboro:						
GoA	Moderate: seepage.	Slight	Moderate: deep to water.	Favorable	Favorable	Favorable.
Handsboro:						
[1]HA	Severe: seepage.	Severe: unstable fill, excess humus.	Severe: salty water.	Excess salt, cutbanks cave, floods.	Floods, excess salt.	Not needed.
Hobonny:						
[1]HB	Slight	Severe: excess humus, low strength.	Severe: floods.	Floods, poor outlets, cutbanks cave.	Floods, wetness.	Not needed.
Lakeland:						
LaB	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Not needed	Droughty, seepage, fast intake.	Not needed.
Levy:						
[1]LE	Slight	Severe: compressible, low strength, shrink-swell.	Severe: floods.	Floods, percs slowly, wetness.	Floods, percs slowly, wetness.	Not needed.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Grassed waterways
Lynchburg:						
Ln	Moderate: seepage.	Slight	Moderate: deep to water.	Favorable	Wetness	Not needed.
Lynn Haven:						
Ly	Severe: seepage.	Severe: seepage, piping, erodes easily.	Slight	Cutbanks cave, wetness.	Wetness	Not needed.
Murad:						
Mu	Moderate: seepage.	Moderate: seepage, piping.	Severe: deep to water.	Cutbanks cave	Fast intake, seepage.	Not needed.
Nemours:						
NeA	Slight	Moderate: compressible, low strength, shrink-swell.	Moderate: deep to water.	Percs slowly	Percs slowly	Percs slowly.
NeB	Slight	Moderate: compressible, low strength, shrink-swell.	Moderate: deep to water.	Percs slowly	Percs slowly, slope.	Percs slowly.
Norfolk:						
NoA, NoB	Moderate: seepage.	Slight	Severe: deep to water.	Not needed	Favorable	Favorable.
Ocilla:						
Oc	Moderate: seepage.	Moderate: seepage.	Moderate: slow refill.	Favorable	Fast intake	Not needed.
Okeetee:						
Oe	Slight	Moderate: compressible, shrink-swell, low strength.	Moderate: deep to water, slow refill.	Percs slowly, wetness.	Percs slowly, wetness.	Percs slowly, wetness.
[1]OK:						
Okeetee part	Slight	Moderate: compressible, shrink-swell, low strength.	Moderate: deep to water, slow refill.	Percs slowly, wetness.	Percs slowly, wetness.	Percs slowly, wetness.
Eulonia part	Moderate: seepage.	Moderate: compressible.	Moderate: deep to water.	Favorable	Favorable	Favorable.
Onslow:						
On	Moderate: seepage.	Moderate: piping.	Moderate: deep to water.	Favorable	Wetness	Not needed.
Osier:						
Os	Severe: seepage.	Severe: seepage, unstable fill.	Moderate: deep to water.	Floods, cutbanks cave.	Floods, seepage.	Not needed.
Paxville:						
Pa, [1]PB	Moderate: seepage.	Moderate: piping.	Slight	Favorable	Wetness	Not needed.
Pelham:						
Pe	Moderate: seepage.	Moderate: piping.	Slight	Favorable	Floods, wetness.	Not needed.
Pickney:						
Pk	Severe: seepage.	Severe: seepage, piping, unstable fill.	Slight	Cutbanks cave, floods, poor outlets.	Seepage, floods, wetness.	Not needed.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Grassed waterways
Polawana:						
Po	Severe: seepage.	Severe: seepage, piping, unstable fill.	Slight	Cutbanks cave, floods, poor outlets.	Floods, seepage, wetness.	Not needed.
Rains:						
Ra, [1]RB	Moderate: seepage.	Slight	Slight	Favorable	Wetness	Not needed.
[1]RC:						
Rains part	Moderate: seepage.	Slight	Slight	Favorable	Wetness	Not needed.
Lynchburg part	Moderate: seepage.	Slight	Moderate: deep to water.	Favorable	Wetness	Not needed.
Ridgeland:						
Rd	Severe: seepage.	Severe: seepage, unstable fill, piping.	Moderate: deep to water.	Wetness, cutbanks cave.	Wetness, seepage, fast intake.	Not needed
Rosedhu:						
Ro	Severe: seepage.	Severe: seepage, unstable fill.	Slight	Cutbanks cave, wetness, floods.	Not needed	Not needed.
Santee:						
Sa, [1]SE	Slight	Moderate: compressible, low strength.	Slight	Percs slowly, floods, wetness.	Percs slowly, floods, wetness.	Not needed.
Seabrook:						
Sk	Severe: seepage.	Severe: seepage, piping, erodes easily.	Moderate: deep to water.	Cutbanks cave	Fast intake, seepage.	Not needed.
Seewee:						
Sw	Severe: seepage.	Severe: seepage, unstable fill, piping.	Moderate: deep to water.	Cutbanks cave, wetness.	Wetness, seepage, fast intake.	Not needed.
Tawcaw:						
[1]TC:						
Tawcaw part	Slight	Moderate: compressible, low strength.	Moderate: deep to water.	Floods, wetness, percs slowly.	Floods, wetness, percs slowly.	Not needed.
Chastain part	Slight	Moderate: compressible, low strength.	Slight	Floods, wetness, percs slowly.	Floods, wetness, percs slowly.	Not needed.
Tomotley:						
To	Moderate: seepage.	Slight	Slight	Favorable	Wetness	Not needed.
Udorthents:						
UL	Moderate: seepage.	Slight	Severe: deep to water.	Not needed	Slope	Not needed.
US	Severe: seepage.	Severe: seepage.	Severe: deep to water.	Cutbanks cave	Seepage	Favorable.
Wahee:						
Wa	Slight	Moderate: compressible.	Moderate: deep to water.	Percs slowly, wetness, floods.	Percs slowly, wetness, floods.	Not needed.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Grassed waterways
Wando:						
Wd	Severe: seepage.	Severe: seepage, piping.	Severe: deep to water.	Not needed	Droughty, fast intake, seepage.	Not needed.
Williman:						
Wn	Moderate: seepage.	Moderate: piping.	Moderate: deep to water.	Favorable	Wetness, fast intake.	Not needed.
Yemassee:						
Ye	Moderate: seepage.	Slight	Moderate: deep to water.	Favorable	Favorable	Not needed.
Yonges:						
Yo	Moderate: seepage.	Moderate: piping.	Moderate: deep to water.	Favorable	Wetness, floods, percs slowly.	Not needed.
[1]YR:						
Yonges part	Moderate: seepage.	Moderate: piping.	Moderate: deep to water.	Favorable	Wetness, floods, percs slowly.	Not needed.
Argent part	Slight	Moderate: shrink-swell, compressible, low strength.	Slight	Percs slowly, floods, wetness.	Percs slowly, floods, wetness.	Not needed.

[1]This map unit is made up of two or more dominant kinds of soil. See description of the map unit for composition and behavior characteristics of the whole map unit.

TABLE 14.--RECREATIONAL DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
Albany:				
Aa	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.
[1]AB:				
Albany part	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.
Blanton part	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy.	Severe: too sandy.
[1]AC:				
Albany part	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.
Pelham part	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: wetness.
Ocilla part	Moderate: wetness, too sandy.	Moderate: wetness.	Moderate: wetness, too sandy.	Moderate: wetness.
Argent:				
Ae, Ag, [1]AN	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
[1]AO:				
Argent part	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Okeetee part	Moderate: wetness, percs slowly.	Moderate: wetness.	Moderate: percs slowly, wetness.	Moderate: wetness.
Baratari:				
Ba	Severe: wetness.	Severe: wetness.	Severe: too sandy, wetness.	Severe: wetness.
Bertie:				
Bb	Moderate: wetness.	Slight	Moderate: wetness.	Slight.
[1]BC:				
Bertie part	Moderate: wetness.	Slight	Moderate: wetness.	Slight.
Coosaw part	Moderate: too sandy, wetness.	Moderate: too sandy, wetness.	Moderate: too sandy, wetness.	Moderate: too sandy, wetness.
Tomotley part	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Bladen:				
Bd	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness.
Blanton:				
BeB	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.

See footnote at end of table.

TABLE 14.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
Blanton:				
BeC	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy, slope.	Severe: too sandy.
Bohicket:				
[1]BK	Severe: floods, too clayey, wetness, percs slowly.	Severe: floods, too clayey, wetness.	Severe: floods, too clayey, wetness, percs slowly.	Severe: floods, too clayey, wetness.
Bonneau:				
BnA	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.
Borrow pit:				
Bp.				
Buncombe:				
[1]BR	Severe: floods, too sandy.	Moderate: floods, too sandy.	Severe: floods, too sandy.	Moderate: floods, too sandy.
[1]BS:				
Buncombe part	Severe: floods, too sandy.	Moderate: floods, too sandy.	Severe: floods, too sandy.	Moderate: floods, too sandy.
Santee part	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Cape Fear:				
Ca	Severe: floods, wetness.	Severe: wetness.	Severe: wetness, floods.	Severe: wetness.
Capers:				
[1]CE	Severe: floods, too clayey, percs slowly.	Severe: floods, too clayey.	Severe: floods, too clayey, percs slowly.	Severe: floods, too clayey.
Chipley:				
ChA	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy, soil blowing.	Severe: too sandy.
[1]CK:				
Chipley part	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy.	Severe: too sandy.
Pelham part	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: wetness.
Echaw part	Moderate: too sandy, wetness.	Moderate: too sandy.	Moderate: too sandy, wetness.	Moderate: too sandy.
Chisolm:				
CmB	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy, slope.	Moderate: too sandy.
Coastal beaches:				
Co.				

See footnote at end of table.

TABLE 14.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
Coosaw:				
Cs	Moderate: too sandy, wetness.	Moderate: too sandy, wetness.	Moderate: too sandy, wetness.	Moderate: too sandy, wetness.
Coxville:				
Cx	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Deloss:				
De	Severe: floods, wetness.	Severe: wetness.	Severe: floods, wetness.	Severe: wetness.
Echaw:				
Ec	Moderate: too sandy, wetness.	Moderate: too sandy.	Moderate: too sandy, wetness.	Moderate: too sandy.
Eddings:				
EdB	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy.	Severe: too sandy.
Eulonia:				
Ee, [1]EU	Moderate: percs slowly, wetness.	Moderate: wetness.	Moderate: percs slowly, wetness.	Slight.
Fluvaquents:				
[1]FA:				
Fluvaquents part	Severe: wetness, too clayey.	Severe: wetness, too clayey.	Severe: wetness, too clayey.	Severe: wetness, too clayey.
Udipsamments part	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.
Fripp:				
[1]Fb:				
Fripp part	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.
Baratari part	Severe: wetness.	Severe: wetness.	Severe: too sandy, wetness.	Severe: wetness.
Goldsboro:				
GoA	Slight	Slight	Slight	Slight.
Handsboro:				
[1]HA	Severe: floods, excess humus, wetness.	Severe: floods, excess humus, wetness.	Severe: floods, wetness, excess humus.	Severe: floods, wetness, excess humus.
Hobonny:				
[1]HB	Severe: floods, excess humus, wetness.	Severe: floods, excess humus, wetness.	Severe: floods, excess humus, wetness.	Severe: floods, excess humus, wetness.
Lakeland:				
LaB	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.

See footnote at end of table.

TABLE 14.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
Levy:				
[1]LE	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Lynchburg:				
Ln	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.
Lynn Haven:				
Ly	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Murad:				
Mu	Moderate: too sandy, wetness.	Moderate: too sandy, wetness.	Moderate: wetness, too sandy.	Moderate: too sandy.
Nemours:				
NeA	Moderate: percs slowly, wetness.	Moderate: wetness.	Moderate: percs slowly, wetness.	Slight.
NeB	Moderate: percs slowly, wetness.	Moderate: wetness.	Moderate: percs slowly, slope, wetness.	Slight.
Norfolk:				
NoA	Slight	Slight	Slight	Slight.
NoB	Slight	Slight	Moderate: slope.	Slight.
Ocilla:				
Oc	Moderate: wetness, too sandy.	Moderate: wetness.	Moderate: wetness, too sandy.	Moderate: wetness.
Okeetee:				
Oe	Moderate: wetness, percs slowly.	Moderate: wetness.	Moderate: percs slowly, wetness.	Moderate: wetness.
[1]OK:				
Okeetee part	Moderate: wetness, percs slowly.	Moderate: wetness.	Moderate: percs slowly, wetness.	Moderate: wetness.
Eulonia part	Moderate: percs slowly, wetness.	Moderate: wetness.	Moderate: percs slowly, wetness.	Slight.
Onslow:				
On	Moderate: too sandy, wetness.	Moderate: too sandy, wetness.	Moderate: too sandy, wetness.	Moderate: too sandy.
Osier:				
Os	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Paxville:				
Pa, [1]PB	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.

See footnote at end of table.

TABLE 14.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
Pelham:				
Pe	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: wetness.
Pickney:				
Pk	Severe: floods, too sandy, wetness.	Severe: floods, too sandy, wetness.	Severe: floods, too sandy, wetness.	Severe: floods, too sandy, wetness.
Polawana:				
Po	Severe: floods, too sandy, wetness.	Severe: floods, too sandy, wetness.	Severe: floods, too sandy, wetness.	Severe: floods, too sandy, wetness.
Rains:				
Ra, [1]RB	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
[1]RC:				
Rains part	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Lynchburg part	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.
Ridgeland:				
Rd	Moderate: wetness, too sandy.	Moderate: wetness, too sandy.	Severe: too sandy.	Severe: too sandy.
Rosedhu:				
Ro	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness, too sandy.	Severe: floods, wetness.
Santee:				
Sa, [1]SE	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Seabrook:				
Sk	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy.	Severe: too sandy.
Seewee:				
Sw	Severe: wetness, too sandy.	Moderate: wetness, too sandy.	Severe: wetness, too sandy.	Moderate: wetness, too sandy.
Tawcaw:				
[1]TC:				
Tawcaw part	Severe: floods, wetness.	Severe: floods.	Severe: floods, wetness.	Severe: floods.
Chastain part	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Tomotley:				
To	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.

See footnote at end of table.

TABLE 14.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
Udorthents:				
UL	Severe: slope, too clayey.	Severe: slope, too clayey.	Severe: slope, too clayey.	Severe: slope, too clayey.
US	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.
Wahee:				
Wa	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.
Wando:				
Wd	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy.	Severe: too sandy.
Williman:				
Wn	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Yemassee:				
Ye	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.
Yonges:				
Yo	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.
[1]YR:				
Yonges part	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.
Argent part	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.

[1]This map unit is made up of two or more dominant kinds of soil. See description of the map unit for composition and behavior characteristics of the whole map unit.

TABLE 15.--WILDLIFE HABITAT POTENTIALS

[See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Albany: Aa	Fair	Fair	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor.
[1]AB: Albany part	Fair	Fair	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor.
Blanton part	Fair	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
[1]AC: Albany part	Fair	Fair	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor.
Pelham part	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair.
Ocilla part	Fair	Fair	Good	Fair	Good	Fair	Fair	Fair	Good	Fair.
Argent: Ae, Ag, [1]AN	Fair	Fair	Good	Good	Good	Good	Good	Fair	Good	Good.
[1]AO: Argent part	Fair	Fair	Good	Good	Good	Good	Good	Fair	Good	Good.
Okeetee part	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good.
Baratari: Ba	Poor	Poor	Poor	Fair	Fair	Poor	Poor	Poor	Fair	Poor.
Bertie: Bb	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
[1]BC: Bertie part	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Coosaw part	Fair	Fair	Good	Fair	Good	Fair	Fair	Fair	Good	Fair.
Tomotley part	Fair	Fair	Fair	Good	Good	Good	Good	Fair	Good	Good.
Bladen: Bd	Fair	Fair	Good	Good	Good	Good	Good	Fair	Good	Good.
Blanton: BeB, BeC	Fair	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Bohicket: [1]BK	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good.
Bonneau: BnA	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Borrow pit: Bp	---	---	---	---	---	---	---	---	---	---
Buncombe: [1]BR	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
[1]BS: Buncombe part	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Santee part	Fair	Fair	Good	Good	Good	Good	Good	Fair	Good	Good.
Cape Fear: Ca	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair

See footnote at end of table.

TABLE 15.--WILDLIFE HABITAT POTENTIALS--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Capers:										
[1]CE	---	---	---	---	---	Good	Good	---	---	Good.
Chipley:										
ChA	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
[1]CK:										
Chipley part	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Pelham part	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair.
Echaw part	Poor	Fair	Good	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
Chisolm:										
CmB	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Coastal beaches:										
Co	---	---	---	---	---	---	---	---	---	---
Coosaw:										
Cs	Fair	Fair	Good	Fair	Good	Fair	Fair	Fair	Good	Fair.
Coxville:										
Cx	Fair	Fair	Good	Good	Good	Poor	Fair	Fair	Good	Poor.
Deloss:										
De	Fair	Fair	Fair	Good	Good	Good	Fair	Fair	Good	Fair.
Echaw:										
Ec	Poor	Fair	Good	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
Eddings:										
EdB	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Eulonia:										
Ee, [1]EU	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Fluvaquents:										
[1]FA:										
Fluvaquents part	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor	Good	Very poor.	Very poor.	Fair.
Udipsamments part	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
Fripp:										
[1]Fb:										
Fripp part	Very poor.	Very poor.	Poor	Poor	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.
Baratari part	Poor	Poor	Poor	Fair	Fair	Poor	Poor	Poor	Fair	Poor.
Goldsboro:										
GoA	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Handsboro:										
[1]HA	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor.

See footnote at end of table.

TABLE 15.--WILDLIFE HABITAT POTENTIALS--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Hobonny: [1]HB	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good.
Lakeland: LaB	Poor	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Levy: [1]LE	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Good	Good	Very poor.	Very poor.	Good.
Lynchburg: Ln	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Lynn Haven: Ly	Poor	Poor	Poor	Poor	Fair	Fair	Fair	Poor	Fair	Fair.
Murad: Mu	Fair	Fair	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor.
Nemours: NeA, NeB	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Norfolk: NoA, NoB	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Ocilla: Oc	Fair	Fair	Good	Fair	Good	Fair	Fair	Fair	Good	Fair.
Okeetee: Oe	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good.
[1]OK: Okeetee part	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good.
Eulonia part	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Onslow: On	Fair	Fair	Good	Good	Good	Fair	Poor	Fair	Good	Poor.
Osier: Os	Poor	Fair	Good	Fair	Fair	Fair	Fair	Fair	Fair	Fair.
Paxville: Pa, [1]PB	Fair	Fair	Fair	Good	Good	Good	Fair	Fair	Good	Fair.
Pelham: Pe	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair.
Pickney: Pk	Poor	Poor	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair.
Polawana: Po	Poor	Poor	Poor	Fair	Fair	Fair	Fair	Poor	Fair	Fair.
Rains: Ra, [1]RB	Fair	Fair	Fair	Good	Good	Good	Good	Fair	Good	Good.
[1]RC: Rains part	Fair	Fair	Fair	Good	Good	Good	Good	Fair	Good	Good.
Lynchburg part	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Ridgeland: Rd	Poor	Poor	Poor	Fair	Fair	Poor	Poor	Poor	Fair	Poor.

See footnote at end of table.

TABLE 15.--WILDLIFE HABITAT POTENTIALS--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Rosedhu:										
Ro	Poor	Poor	Poor	Poor	Fair	Fair	Fair	Poor	Fair	Fair.
Santee:										
Sa, [1]SE	Fair	Fair	Good	Good	Good	Good	Good	Fair	Good	Good.
Seabrook:										
Sk	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Seewee:										
Sw	Poor	Fair	Fair	Fair	Fair	Fair	Very poor.	Fair	Fair	Poor.
Tawcaw:										
[1]TC:										
Tawcaw part	Very poor.	Poor	Poor	Good	Fair	Fair	Fair	Poor	Fair	Fair.
Chastain part	Very poor.	Poor	Poor	Fair	Poor	Good	Good	Poor	Fair	Good.
Tomotley:										
To	Fair	Fair	Fair	Good	Good	Good	Good	Fair	Good	Good.
Udorthents:										
UL	Very poor.	Very poor.	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.
US	Poor	Fair	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
Wahee:										
Wa	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Wando:										
Wd	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Williman:										
Wn	Fair	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
Yemassee:										
Ye	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Yonges:										
Yo	Fair	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
[1]YR:										
Yonges part	Fair	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
Argent part	Fair	Fair	Good	Good	Good	Good	Good	Fair	Good	Good.

[1]This map unit is made up of two or more dominant kinds of soil. See description of the map unit for composition and behavior characteristics of the whole map unit.

TABLE 16.--ENGINEERING PROPERTIES AND CLASSIFICATIONS

[The symbol < means less than. Absence of an entry indicates that data were not estimated]

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
Albany:										
Aa----------------	0-50	Loamy fine sand	SM	A-2	100	100	75-90	12-23	---	NP
	50-75	Sandy clay loam, sandy loam.	SC, SM, SM-SC	A-2, A-4	97-100	95-100	70-90	25-38	<35	NP-17
[1]AB:										
Albany part-----	0-50	Loamy fine sand	SM	A-2	100	100	75-90	12-23	---	NP
	50-75	Sandy clay loam, sandy loam.	SC, SM, SM-SC	A-2, A-4	97-100	95-100	70-90	25-38	<35	NP-17
Blanton part----	0-45	Fine sand-------	SP-SM	A-3, A-2-4	100	100	85-100	5-12	---	NP
	45-52	Sandy loam------	SM	A-2-4	100	100	85-95	20-30	---	NP
	52-80	Sandy clay loam, sandy loam.	SC, SM-SC	A-4, A-2-4	100	100	85-95	30-50	18-30	4-10
[1]AC:										
Albany part-----	0-50	Loamy fine sand	SM	A-2	100	100	75-90	12-23	---	NP
	50-75	Sandy clay loam, sandy loam.	SC, SM, SM-SC	A-2, A-4	97-100	95-100	70-90	25-38	<35	NP-17
Pelham part-----	0-32	Loamy sand------	SM	A-2	100	95-100	75-90	15-30	---	NP
	32-80	Sandy clay loam, sandy loam.	SM, SC, SM-SC	A-2, A-4, A-6	100	95-100	65-90	25-50	15-30	2-12
Ocilla part-----	0-33	Loamy fine sand	SM, SP-SM	A-2, A-3	100	95-100	75-100	8-35	---	NP
	33-85	Sandy loam, sandy clay loam.	SM, CL, SC	A-2, A-4, A-6	100	95-100	80-100	30-55	<40	NP-18
Argent:										
Ae----------------	0-5	Fine sandy loam	SM, SC, SM-SC	A-2, A-4	100	98-100	90-100	30-50	<30	NP-10
	5-64	Clay, sandy clay	CL, CH	A-6, A-7	100	98-100	90-100	55-88	30-60	11-39
	64-76	Clay, sandy clay, sandy clay loam.	CL, CL-ML, SC, SM-SC	A-4, A-6 A-7	100	98-100	90-100	40-65	22-48	6-25
Ag, [1]AN-----------	0-5	Clay loam-------	CL, CL-ML	A-4, A-6	100	98-100	90-100	51-80	20-40	5-20
	5-64	Clay, sandy clay	CL, CH	A-6, A-7	100	98-100	90-100	55-88	30-60	11-39
	64-76	Clay, sandy clay, sandy clay loam.	CL, CL-ML, SC, SM-SC	A-4, A-6, A-7	100	98-100	90-100	40-65	22-48	6-25
[1]AO:										
Argent part-----	0-5	Clay loam-------	CL, CL-ML	A-4, A-6	100	98-100	90-100	51-80	20-40	5-20
	5-64	Clay, sandy clay	CL, CH	A-6, A-7	100	98-100	90-100	55-88	30-60	11-39
	64-76	Clay, sandy clay, sandy clay loam.	CL, CL-ML, SC, SM-SC	A-4, A-6, A-7	100	98-100	90-100	40-65	22-48	6-25
Okeetee part----	0-7	Fine sandy loam	SM, SC, ML, CL	A-2, A-4	100	98-100	90-98	30-60	<30	NP-10
	7-50	Clay, sandy clay	CH, CL	A-7	100	98-100	90-100	55-85	41-55	20-30
	50-78	Clay, sandy clay, sandy clay loam.	CH, CL, ML	A-4, A-6, A-7	100	98-100	90-100	51-80	25-55	8-30
Barataŗi:										
Ba----------------	0-11	Fine sand-------	SP, SP-SM	A-3, A-2	100	100	75-95	4-12	---	NP
	11-20	Sand, fine sand	SP-SM	A-3, A-2	100	100	75-95	5-12	---	NP
	20-55	Sand, fine sand	SP, SP-SM	A-3, A-2	100	100	80-100	2-12	---	NP
Bertie:										
Bb----------------	0-17	Loamy fine sand	SM	A-2	100	100	75-100	15-35	<25	NP-4
	17-57	Sandy clay loam, sandy loam.	SM-SC, SC, CL-ML, CL	A-2, A-4, A-6	100	100	75-100	25-55	16-35	4-16

See footnote at end of table.

TABLE 16.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
Bertie:										
[1]BC:										
Bertie part	0-17	Loamy fine sand	SM	A-2	100	100	75-100	15-35	<25	NP-4
	17-57	Sandy clay loam, sandy loam.	SM-SC, SC, CL-ML, CL	A-2, A-4, A-6	100	100	75-100	25-55	16-35	4-16
Coosaw part	0-27	Loamy fine sand	SM	A-2	100	100	90-100	15-30	---	NP
	27-31	Sandy loam, fine sandy loam.	SM, SM-SC	A-2, A-4	100	95-100	80-100	20-40	<30	NP-7
	31-77	Sandy clay loam, fine sandy loam, sandy loam.	SM, SC, SM-SC	A-2, A-4, A-6	100	95-100	80-100	25-50	15-35	2-15
Tomotley part	0-13	Loamy fine sand	SM	A-2	98-100	95-100	75-98	15-35	<25	NP-4
	13-44	Fine sandy loam, sandy clay loam, clay loam.	SM-SC, SC, CL-ML, CL	A-2, A-4, A-6	98-100	95-100	75-98	30-70	20-40	6-18
	44-59	Fine sandy loam, sandy clay loam, sandy clay.	SM-SC, SC, CL-ML, CL	A-4, A-6, A-7	98-100	95-100	75-98	36-75	20-45	6-22
	59-80	Fine sandy loam, loamy fine sand.	SM-SC, SM	A-2, A-4	98-100	95-100	75-98	15-50	<30	NP-7
Bladen:										
Bd	0-8	Fine sandy loam	SM	A-2, A-4	100	97-100	60-85	20-50	---	NP
	8-47	Clay, sandy clay	CL, CH	A-7	100	99-100	75-100	55-85	45-65	23-45
	47-69	Clay, sandy clay, clay loam, sandy clay loam.	CL, CH, SC	A-4, A-6, A-7	100	89-99	75-95	45-75	25-60	8-35
Blanton:										
BeB, BeC	0-45	Fine sand	SP-SM	A-3, A-2-4	100	100	85-100	5-12	---	NP
	45-52	Sandy loam	SM	A-2-4	100	100	85-95	20-30	---	NP
	52-80	Sandy clay loam, sandy loam.	SC, SM-SC	A-4, A-2-4	100	100	85-95	30-50	18-30	4-10
Bohicket:										
[1]BK	0-10	Silty clay loam	CH, MH	A-7	100	99-100	98-100	90-100	60-100	30-60
	10-49	Silty clay, clay	CH, MH	A-7	100	99-100	80-100	70-95	50-100	19-60
	49-80	Variable	---	---	---	---	---	---	---	---
Bonneau:										
BnA	0-24	Loamy sand	SM	A-2	100	100	50-80	13-35	---	NP
	24-51	Sandy loam, sandy clay loam.	SC, SM-SC	A-2, A-6, A-4	100	100	60-90	30-50	21-37	4-14
	51-83	Sandy loam, sandy clay loam, sandy clay.	CL, SC, SM-SC, CL-ML	A-4, A-6	100	100	60-95	36-60	20-40	4-18
Borrow pit:										
Bp.										
Buncombe:										
[1]BR	0-7	Sand	SM	A-2	98-100	98-100	90-97	18-32	---	NP
	7-80	Loamy sand, sand	SM, SP-SM	A-2, A-3	98-100	98-100	98-100	7-32	---	NP
[1]BS:										
Buncombe part	0-7	Sand	SM	A-2	98-100	98-100	90-97	18-32	---	NP
	7-80	Loamy sand, sand	SM, SP-SM	A-2, A-3	98-100	98-100	98-100	7-32	---	NP

See footnote at end of table.

TABLE 16.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In								Pct	
Buncombe:										
[1]BS:										
Santee part-----	0-7	Fine sandy loam	SM, SC, SM-SC	A-2, A-4	100	100	80-95	30-50	<30	NP-10
	7-40	Sandy clay, clay loam, clay.	CL, CH	A-6, A-7	100	100	90-100	75-95	30-60	12-35
	40-68	Sandy clay loam, sandy clay, clay.	CL, CH, ML	A-4, A-6, A-7	100	100	90-100	65-95	30-80	8-48
Cape Fear:										
Ca----------------	0-10	Loam------------	CL, ML, CL-ML	A-4, A-6	100	100	85-100	60-90	<35	NP-15
	10-50	Clay loam, clay, silty clay.	ML, CL, MH, CH	A-7	100	100	90-100	70-95	41-65	15-35
Capers:										
[1]CE---------------	0-22	Silty clay loam	MH	A-7-5	100	100	80-100	70-100	50-80	15-40
	22-68	Clay, silty clay	MH	A-7-5	100	100	85-100	75-100	60-80	18-40
Chipley:										
ChA---------------	0-9	Fine sand-------	SP-SM	A-3, A-2-4	100	100	80-100	6-12	---	NP
	9-84	Sand, fine sand	SP-SM	A-3, A-2-4	100	100	80-100	6-12	---	NP
[1]CK:										
Chipley part----	0-9	Fine sand-------	SP-SM	A-3, A-2-4	100	100	80-100	6-12	---	NP
	9-84	Sand, fine sand	SP-SM	A-3, A-2-4	100	100	80-100	6-12	---	NP
Pelham part-----	0-32	Loamy sand------	SM	A-2	100	95-100	75-90	15-30	---	NP
	32-80	Sandy clay loam, sandy loam.	SM, SC, SM-SC	A-2, A-4, A-6	100	95-100	65-90	25-50	15-30	2-12
Echaw part------	0-8	Loamy fine sand	SM	A-2	100	100	65-80	15-35	---	NP
	8-34	Loamy sand, loamy fine sand, fine sand.	SM	A-2	100	100	50-75	15-30	---	NP
	34-80	Fine sand, loamy sand, loamy fine sand, sand.	SM, SP-SM	A-2, A-3	100	100	50-70	5-20	---	NP
Chisolm:										
CmB---------------	0-25	Loamy fine sand	SM, SP-SM	A-2	100	98-100	60-98	10-25	---	NP
	25-36	Sandy clay loam	SM-SC, SC, CL, CL-ML	A-4, A-6	100	98-100	75-98	36-55	20-35	4-15
	36-45	Sandy clay loam, sandy clay.	SM-SC, SC, CL, CL-ML	A-4, A-6, A-7	100	98-100	75-98	36-70	20-45	4-22
	45-57	Sandy loam, fine sandy loam, sandy clay loam.	SM, SM-SC, SC	A-2, A-4, A-6	100	98-100	65-98	25-50	15-35	2-15
	57-80	Loamy fine sand, loamy sand, sand.	SM, SP-SM	A-2	100	98-100	60-98	10-20	---	NP
Coastal beaches:										
Co.										
Coosaw:										
Cs----------------	0-27	Loamy fine sand	SM	A-2	100	100	90-100	15-30	---	NP
	27-31	Sandy loam, fine sandy loam.	SM, SM-SC	A-2, A-4	100	95-100	80-100	20-40	<30	NP-7
	31-77	Sandy clay loam, fine sandy loam, sandy loam.	SM, SC, SM-SC	A-2, A-4, A-6	100	95-100	80-100	25-50	15-35	2-15

See footnote at end of table.

TABLE 16.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
Coxville:										
Cx	0-14	Fine sandy loam	SM, ML, CL-ML, CL	A-4, A-6, A-7	100	100	85-97	46-75	20-46	1-15
	14-65	Clay loam, sandy clay, clay.	CL, CH	A-6, A-7	100	100	90-98	53-80	30-55	15-35
	65-84	Variable	---	---	---	---	---	---	---	---
Deloss:										
De	0-18	Fine sandy loam	SM, SM-SC, ML	A-2, A-4	100	100	70-95	30-65	<35	NP-7
	18-56	Sandy clay loam, clay loam, fine sandy loam.	SM-SC, SC, CL-ML, CL	A-4, A-6, A-7	100	100	75-98	36-70	18-45	4-22
	56-80	Fine sand, loamy fine sand, fine sandy loam.	SP-SM, SM, SM-SC	A-3, A-2	100	98-100	60-98	5-35	<30	NP-5
Echaw:										
Ec	0-8	Loamy fine sand	SM	A-2	100	100	65-80	15-35	---	NP
	8-34	Loamy sand, loamy fine sand, fine sand.	SM	A-2	100	100	50-75	15-30	---	NP
	34-80	Fine sand, loamy sand, loamy fine sand.	SM, SP-SM	A-2, A-3	100	100	50-70	5-20	---	NP
Eddings:										
EdB	0-44	Fine sand	SM, SP-SM	A-2	100	98-100	60-98	10-25	---	NP
	44-57	Sandy loam, fine sandy loam, sandy clay loam.	SM, SM-SC, SC	A-2, A-4, A-6	100	98-100	75-98	25-50	<40	NP-15
	57-80	Fine sandy loam, sandy clay loam, sandy clay.	SM, SC, CL, SM-SC	A-4, A-6, A-7	100	98-100	75-98	36-65	25-50	5-25
Eulonia:										
Ee, [1]EU	0-13	Fine sandy loam	SM, SC, SM-SC	A-2, A-4	100	95-100	60-98	30-50	<30	NP-10
	13-48	Sandy clay, clay	SC, CL, ML	A-6, A-7, A-4	100	95-100	70-99	45-70	25-45	8-20
	48-80	Sandy clay loam, sandy loam.	SC, SM, SM-SC	A-2, A-4, A-6	100	90-100	60-100	18-50	15-35	3-15
Fluvaquents:										
[1]FA:										
Fluvaquents part	0-68	Silty clay	CL, CH	A-7	100	100	95-100	85-98	40-65	16-35
Udipsamments part	0-84	Coarse sand	SP, SP-SM	A-2	75-95	70-90	30-50	1-12	---	NP
Fripp:										
[1]Fb:										
Fripp part	0-5	Fine sand	SP, SP-SM	A-3	100	98-100	85-99	0-5	---	NP
	5-80	Fine sand, sand	SP, SP-SM	A-3	100	98-100	85-99	0-5	---	NP
Baratari part	0-11	Fine sand	SP, SP-SM	A-3, A-2	100	100	75-95	4-12	---	NP
	11-20	Sand, fine sand	SP-SM	A-3, A-2	100	100	75-95	5-12	---	NP
	20-55	Sand, fine sand	SP, SP-SM	A-3, A-2	100	100	80-100	2-12	---	NP
Goldsboro:										
GoA	0-13	Loamy fine sand	SM, SM-SC, SC	A-2, A-4	90-100	85-100	50-95	15-45	<25	NP-14
	13-65	Sandy clay loam, sandy loam.	SM-SC, SC, CL-ML, CL	A-2, A-4, A-6	98-100	95-100	60-95	25-55	16-35	4-16
Handsboro:										
[1]HA	0-4	Mucky silty clay loam.	ML	A-4	100	100	95-100	90-100	<20	NP-4
	4-84	Sapric material	Pt	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 16.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
Hobonny:										
[1]HB	0-2	Silty clay loam	ML, CL	A-4, A-6, A-7	100	100	98-100	80-100	30-50	8-20
	2-90	Sapric material	Pt	A-8	---	---	---	---	---	---
Lakeland:										
LaB	0-45	Fine sand	SP-SM	A-3, A-2-4	90-100	90-100	60-100	5-12	---	NP
	45-85	Sand, fine sand	SP, SP-SM	A-3, A-2-4	90-100	90-100	50-100	1-12	---	NP
Levy:										
[1]LE	0-5	Clay	CL, CH, ML, MH	A-6, A-7	100	100	98-100	85-100	30-65	12-35
	5-42	Silty clay loam, silty clay, clay.	CL, CH, ML, MH	A-6, A-7	100	100	98-100	85-100	35-65	15-35
	42-75	Variable	---	---	---	---	---	---	---	---
Lynchburg:										
Ln	0-17	Loamy fine sand	SM	A-2	100	100	60-100	12-35	<25	NP-4
	17-64	Sandy clay loam, sandy loam, clay loam.	SM-SC, SC, CL, CL-ML	A-2, A-4, A-6	100	100	70-100	25-60	15-40	4-18
	64-72	Sandy clay loam, sandy loam, clay loam, fine sandy loam.	SM-SC, SC, CL, CL-ML	A-2, A-4, A-6	100	100	60-100	25-55	<35	NP-15
Lynn Haven:										
Ly	0-16	Fine sand	SP, SP-SM	A-3, A-2-4	100	100	80-100	2-12	---	NP
	16-32	Sand, fine sand	SM, SP-SM	A-3, A-2-4	100	100	80-100	5-20	---	NP
	32-60	Sand, fine sand	SP, SP-SM	A-3, A-2-4	100	100	80-100	2-12	---	NP
Murad:										
Mu	0-49	Fine sand	SM, SP-SM	A-2	100	98-100	60-98	10-25	---	NP
	49-60	Sandy loam, fine sandy loam, sandy clay loam.	SM, SM-SC, SC	A-2, A-4, A-6	100	98-100	75-98	25-50	<40	NP-15
	60-80	Fine sandy loam, sandy clay loam, sandy clay.	SM, SC, CL, SM-SC	A-4, A-6, A-7	100	98-100	75-98	36-65	25-50	5-25
Nemours:										
NeA, NeB	0-9	Fine sandy loam	SM, SC, SM-SC	A-2, A-4	100	95-100	80-98	30-50	<30	NP-10
	9-44	Clay, sandy clay	CL, CH, MH, ML	A-7	100	98-100	80-100	60-95	41-60	15-30
	44-55	Sandy clay, sandy clay loam, sandy loam.	SM, SC, ML, CL	A-4, A-6, A-7	100	95-100	80-95	40-65	30-48	5-18
	55-80	Sandy clay loam, sandy loam, loamy sand.	SM, SC, SM-SC	A-2, A-4	100	95-100	75-95	25-50	<35	NP-10
Norfolk:										
NoA, NoB	0-15	Loamy fine sand	SM, SM-SC, SC	A-2	95-100	95-100	50-91	15-33	<25	NP-14
	15-70	Sandy loam, fine sandy clay loam, clay loam.	SC, SM-SC, CL, CL-ML	A-2, A-4, A-6	95-100	91-100	70-96	30-55	20-40	4-20
Ocilla:										
Oc	0-33	Loamy fine sand	SM, SP-SM	A-2, A-3	100	95-100	75-100	8-35	---	NP
	33-85	Sandy loam, sandy clay loam.	SM, CL, SC	A-2, A-4, A-6	100	95-100	80-100	30-55	<40	NP-18

See footnote at end of table.

TABLE 16.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In								Pct	
Okeetee:										
Oe----------------	0-7	Fine sandy loam	SM, SC, ML, CL	A-2, A-4	100	98-100	90-98	30-60	<30	NP-10
	7-50	Clay, sandy clay	CH, CL	A-7	100	98-100	90-100	55-85	41-55	20-30
	50-78	Clay, sandy clay, sandy clay loam.	CH, CL, ML	A-4, A-6, A-7	100	98-100	90-100	51-80	25-55	8-30
[1]OK:										
Okeetee part----	0-7	Fine sandy loam	SM, SC, ML, CL	A-2, A-4	100	98-100	90-98	30-60	<30	NP-10
	7-50	Clay, sandy clay	CH, CL	A-7	100	98-100	90-100	55-85	41-55	20-30
	50-78	Clay, sandy clay, sandy clay loam.	CH, CL, ML	A-4, A-6, A-7	100	98-100	90-100	51-80	25-55	8-30
Eulonia part----	0-13	Fine sandy loam	SM, SC, SM-SC	A-2, A-4	100	95-100	60-98	30-50	<30	NP-10
	13-48	Sandy clay, clay	SC, CL, ML	A-6, A-7, A-4	100	95-100	70-99	45-70	25-45	8-20
	48-80	Sandy clay loam, sandy loam.	SC, SM, SM-SC	A-2, A-4, A-6	100	90-100	60-100	18-50	15-35	3-15
Onslow:										
On----------------	0-14	Loamy fine sand	SM, SP-SM	A-2, A-3	100	95-100	60-85	5-30	---	NP
	14-70	Fine sandy clay loam, sandy loam, clay loam.	SM, CL, SM-SC, SC	A-2, A-4, A-6	100	95-100	60-90	30-55	<30	NP-12
Osier:										
Os----------------	0-5	Loamy sand------	SP-SM	A-2, A-3	100	98-100	60-85	5-12	---	NP
	5-65	Sand, loamy sand, loamy fine sand.	SP-SM, SM	A-2, A-3	100	95-100	65-90	5-20	---	NP
Paxville:										
Pa, [1]PB-----------	0-15	Fine sandy loam	SM, SM-SC, ML, CL-ML	A-2, A-4	100	100	80-98	30-60	<35	NP-7
	15-64	Sandy clay loam, fine sandy loam.	CL-ML, CL, SM-SC, SC	A-2, A-4, A-6	100	98-100	60-98	30-60	25-40	5-15
	64-80	Fine sandy loam, loamy sand, fine sand.	SM, SP-SM, SP	A-2	100	98-100	60-98	4-35	<30	NP-4
Pelham:										
Pe----------------	0-32	Loamy sand------	SM	A-2	100	95-100	75-90	15-30	---	NP
	32-80	Sandy clay loam, sandy loam.	SM, SC, SM-SC	A-2, A-4, A-6	100	95-100	65-90	25-50	15-30	2-12
Pickney:										
Pk----------------	0-30	Loamy fine sand	SM, SP-SM	A-2	100	100	50-90	10-25	---	NP
	30-80	Loamy fine sand, loamy sand, fine sand.	SP, SP-SM, SM	A-2, A-3	100	100	50-90	3-25	---	NP
Polawana:										
Po----------------	0-19	Loamy fine sand	SM, SP-SM	A-2	100	98-100	70-90	10-35	---	NP
	19-80	Loamy fine sand, loamy sand, fine sand.	SM, SP-SM	A-2, A-3	100	98-100	75-98	5-20	---	NP

See footnote at end of table.

TABLE 16.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
Rains:										
Ra, [1]RB-----------	0-11	Fine sandy loam	SM, SM-SC	A-2, A-4	100	95-100	50-85	25-50	<35	NP-10
	11-45	Sandy clay loam, clay loam.	SC, SM-SC, CL, CL-ML	A-2, A-4, A-6	100	98-100	65-98	30-70	18-40	4-18
	45-65	Sandy clay loam, clay loam, sandy clay.	SC, SM-SC, CL, CL-ML	A-4, A-6, A-7	100	98-100	65-98	36-72	18-45	4-22
	65-80	Sandy loam, sandy clay loam, sandy clay.	SM, SC, ML, CL	A-2, A-4, A-6	100	95-100	60-95	30-60	15-40	3-18
[1]RC:										
Rains part------	0-11	Fine sandy loam	SM, SM-SC	A-2, A-4	100	95-100	50-85	25-50	<35	NP-10
	11-45	Sandy clay loam, clay loam.	SC, SM-SC, CL, CL-ML	A-2, A-4, A-6	100	98-100	65-98	30-70	18-40	4-18
	45-65	Sandy clay loam, clay loam, sandy clay.	SC, SM-SC, CL, CL-ML	A-4, A-6, A-7	100	98-100	65-98	36-72	18-45	4-22
	65-80	Sandy loam, sandy clay loam, sandy clay.	SM, SC, ML, CL	A-2, A-4, A-6	100	95-100	60-95	30-60	15-40	3-18
Lynchburg part--	0-17	Loamy fine sand	SM	A-2	100	100	60-100	12-35	<25	NP-4
	17-64	Sandy clay loam, sandy loam, clay loam, fine sandy loam.	SM-SC, SC, CL, CL-ML	A-2, A-4, A-6	100	100	70-100	25-60	15-40	4-18
	64-72	Sandy clay loam, sandy loam, clay loam.	SM-SC, SC, CL, CL-ML	A-2, A-4, A-6	100	100	60-100	25-55	<35	NP-15
Ridgeland:										
Rd----------------	0-8	Fine sand-------	SP-SM, SM	A-2, A-3	100	100	80-100	5-20	---	NP
	8-15	Sand, fine sand, loamy fine sand.	SP-SM, SP, SM	A-2, A-3	100	100	80-100	3-18	---	NP
	15-35	Sand, fine sand, loamy fine sand.	SP-SM, SP, SM	A-2, A-3	100	100	80-100	2-15	---	NP
	35-80	Sand, fine sand, loamy fine sand.	SP-SM, SP, SM	A-2, A-3	100	100	80-100	2-15	---	NP
Rosedhu:										
Ro----------------	0-11	Fine sand-------	SP, SP-SM	A-3, A-2	100	100	75-95	4-12	---	NP
	11-25	Sand, fine sand	SP-SM	A-3, A-2	100	100	75-95	5-12	---	NP
	25-53	Sand, fine sand	SP-SM, SP	A-3, A-2	100	100	80-100	2-12	---	NP
Santee:										
Sa, [1]SE-----------	0-7	Fine sandy loam	SM, SC, SM-SC	A-2, A-4	100	100	80-95	30-50	<30	NP-10
	7-40	Sandy clay, clay loam, clay.	CL, CH	A-6, A-7	100	100	90-100	75-95	30-60	12-35
	40-68	Sandy clay loam, sandy clay, clay.	CL, CH, ML	A-4, A-6, A-7	100	100	90-100	65-95	30-80	8-48
Seabrook:										
Sk----------------	0-10	Fine sand-------	SM, SP-SM	A-2, A-3	95-100	90-100	85-99	5-25	---	NP
	10-80	Loamy fine sand, fine sand, sand.	SM, SP-SM	A-2, A-3	95-100	90-100	85-100	5-25	---	NP
Seewee:										
Sw----------------	0-25	Fine sand-------	SP-SM, SM	A-2, A-3	100	100	75-100	5-20	---	NP
	25-45	Fine sand, sand	SP, SP-SM, SM	A-2, A-3	100	100	70-100	2-15	---	NP
	45-80	Fine sand, sand	SP, SP-SM, SM	A-2, A-3	100	100	70-100	1-15	---	NP

See footnote at end of table.

TABLE 16.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
Tawcaw:										
[1]TC:										
Tawcaw part-----	0-9	Clay------------	ML, CL, MH, CH	A-7	100	100	90-100	75-98	41-75	15-40
	9-47	Silty clay loam, silty clay, clay, clay loam.	CL, CH, ML, MH	A-6, A-7	100	100	90-100	51-98	30-60	11-30
	47-80	Silty clay loam, sandy clay loam, loam, clay loam.	SC, SM-SC, CL-ML, CL	A-4, A-6, A-7	100	100	90-100	40-90	22-45	5-20
Chastain part---	0-16	Clay loam-------	ML, CL, MH, CH	A-7	100	100	90-100	75-98	41-75	15-40
	16-54	Silty clay loam, silty clay, clay.	CL, CH, ML, MH	A-6, A-7	100	100	95-100	85-98	35-75	12-40
	54-80	Silty clay loam, silty clay, clay.	CL, CH, ML, MH	A-6, A-7	100	100	90-100	70-90	30-78	11-42
Tomotley:										
To----------------	0-13	Loamy fine sand	SM	A-2	98-100	95-100	75-98	15-35	<25	NP-4
	13-44	Fine sandy loam, sandy clay loam, clay loam.	SM-SC, SC, CL-ML, CL	A-2, A-4, A-6	98-100	95-100	75-98	30-70	20-40	6-18
	44-59	Fine sandy loam, sandy clay loam, sandy clay.	SM-SC, SC, CL-ML, CL	A-4, A-6, A-7	98-100	95-100	75-98	36-75	20-45	6-22
	59-80	Fine sandy loam, loamy fine sand.	SM-SC, SM	A-2, A-4	98-100	95-100	75-98	15-50	<30	NP-7
Udorthents:										
UL----------------	0-6	Loamy fine sand	SM, SP-SM	A-4, A-2	95-100	90-100	65-85	10-50	---	NP
	6-80	Sandy clay loam, sandy clay, clay.	SC, CL, CL-ML	A-4, A-6, A-7	95-100	90-100	75-95	36-95	25-45	5-25
US----------------	0-45	Loamy fine sand, fine sand.	SP-SM, SM	A-2, A-3	98-100	90-98	55-95	5-20	---	NP
Wahee:										
Wa----------------	0-13	Fine sandy loam	SM, SM-SC	A-2, A-4	100	95-100	50-85	30-50	<30	NP-7
	13-40	Clay, clay loam, silty clay.	CL, CH	A-7	100	100	95-100	70-90	41-60	18-32
	40-62	Sandy clay loam, clay loam, silty clay loam.	CL	A-6, A-7	100	100	90-100	36-65	30-50	11-25
Wando:										
Wd----------------	0-52	Fine sand-------	SP-SM, SM	A-2, A-3	96-100	95-100	60-98	5-25	---	NP
	52-85	Sand, fine sand	SP, SP-SM, SM	A-2, A-3	98-100	98-100	51-98	2-20	---	NP
Williman:										
Wn----------------	0-26	Loamy fine sand	SM	A-2	100	100	75-98	15-35	<25	NP-3
	26-80	Sandy loam, fine sandy loam, sandy clay loam.	SM-SC, CL-ML, SC, CL	A-2, A-4, A-6	100	100	75-98	30-65	15-35	3-15

See footnote at end of table.

TABLE 16.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In								Pct	
Yemassee:										
Ye----------------	0-15	Loamy fine sand	SM	A-2	100	100	75-100	15-35	<25	NP-4
	15-48	Sandy clay loam, clay loam, fine sandy loam.	SM, CL, SC, CL-ML, SM-SC	A-2, A-4, A-6	100	100	75-100	30-70	16-38	3-18
	48-65	Sandy clay loam, fine sandy loam, sandy clay.	SC, SM, CL-ML, SM-SC	A-2, A-4, A-6	100	100	75-100	25-55	<35	NP-15
Yonges:										
Yo----------------	0-18	Loamy fine sand	SM-SC, SM, ML, CL-ML	A-2, A-4	100	100	90-100	25-55	<30	NP-7
	18-60	Sandy clay loam, clay loam.	CL-ML, CL	A-4, A-6, A-7	100	100	95-100	51-70	25-45	6-25
	60-80	Fine sandy loam, sandy clay loam.	CL, ML, CL-ML, SM-SC	A-4, A-6	100	100	80-100	40-65	20-40	3-20
[1]YR:										
Yonges part-----	0-18	Loamy fine sand	SM-SC, SM, ML, CL-ML	A-2, A-4	100	100	90-100	25-55	<30	NP-7
	18-60	Sandy clay loam, clay loam.	CL-ML, CL	A-4, A-6, A-7	100	100	95-100	51-70	25-45	6-25
	60-80	Fine sandy loam, sandy clay loam.	CL, ML, CL-ML, SM-SC	A-4, A-6	100	100	80-100	40-65	20-40	3-20
Argent part-----	0-5	Clay loam-------	CL, CL-ML	A-4, A-6	100	98-100	90-100	51-80	20-40	5-20
	5-64	Clay, sandy clay	CL, CH	A-6, A-7	100	98-100	90-100	55-88	30-55	11-30
	64-76	Clay, sandy clay, sandy clay loam.	CL, CL-ML, SC, SM-SC	A-4, A-6, A-7	100	98-100	90-100	40-65	22-48	6-25

[1]This map unit is made up of two or more dominant kinds of soil. See description of the map unit for composition and behavior characteristics of the whole map unit.

TABLE 17.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS

[The symbol < means less than; > means more than. Entries under "Erosion factors--T" are for the entire profile. Absence of an entry indicates that data were not available or were not estimated]

Soil name and map symbol	Depth	Permea-bility	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete	Erosion factors: K	Erosion factors: T
	In	In/hr	In/in	pH	Mmhos/cm					
Albany:										
Aa----------------	0-50	6.0-20	0.02-0.04	4.5-5.5	<2	Low-------	Moderate	High-----	0.17	4
	50-75	0.6-2.0	0.10-0.16	4.5-5.5	<2	Low-------	High-----	High-----	0.24	
[1]AB:										
Albany part-----	0-50	6.0-20	0.02-0.04	4.5-5.5	<2	Low-------	Moderate	High-----	0.17	4
	50-75	0.6-2.0	0.10-0.16	4.5-5.5	<2	Low-------	High-----	High-----	0.24	
Blanton part----	0-45	6.0-20	0.03-0.07	4.5-6.0	<2	Very low--	Low------	High-----	0.17	5
	45-52	2.0-6.0	0.10-0.15	4.5-5.5	<2	Low-------	Moderate	High-----	0.24	
	52-80	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low-------	High-----	High-----	0.32	
[1]AC:										
Albany part-----	0-50	6.0-20	0.02-0.04	4.5-5.5	<2	Low-------	Moderate	High-----	0.17	4
	50-75	0.6-2.0	0.10-0.16	4.5-5.5	<2	Low-------	High-----	High-----	0.24	
Pelham part-----	0-32	6.0-20	0.05-0.08	4.5-5.5	<2	Very low--	High-----	High-----	---	---
	32-80	0.6-2.0	0.10-0.13	4.5-5.5	<2	Low-------	High-----	High-----	---	
Ocilla part-----	0-33	2.0-20	0.05-0.08	4.5-5.5	<2	Low-------	High-----	Moderate	---	---
	33-85	0.6-2.0	0.09-0.12	4.5-5.5	<2	Low-------	High-----	Moderate	---	
Argent:										
Ae----------------	0-5	2.0-6.0	0.10-0.15	3.6-6.0	<2	Low-------	Moderate	High-----	0.28	5
	5-64	0.06-0.2	0.14-0.18	3.6-6.0	<2	Moderate	High-----	High-----	0.32	
	64-76	0.06-0.6	0.12-0.16	5.6-8.4	<2	Moderate	High-----	Low------	0.32	
Ag, [1]AN-----------	0-5	0.6-2.0	0.15-0.20	3.6-6.0	<2	Low-------	Moderate	High-----	---	---
	5-64	0.06-0.2	0.14-0.18	3.6-6.0	<2	Moderate	High-----	High-----	---	
	64-76	0.06-0.6	0.12-0.16	5.6-8.4	<2	Moderate	High-----	Low------	---	
[1]AO:										
Argent part-----	0-5	0.6-2.0	0.15-0.20	3.6-6.0	<2	Low-------	Moderate	High-----	---	---
	5-64	0.06-0.2	0.14-0.18	3.6-6.0	<2	Moderate	High-----	High-----	---	
	64-76	0.06-0.6	0.12-0.16	5.6-8.4	<2	Moderate	High-----	Low------	---	
Okeetee part----	0-7	2.0-6.0	0.12-0.15	4.5-6.5	<2	Low-------	Moderate	High-----	---	---
	7-50	0.06-0.2	0.10-0.15	5.1-6.5	<2	Moderate	High-----	Moderate	---	
	50-78	0.06-0.6	0.10-0.15	5.6-8.4	<2	Moderate	High-----	Moderate	---	
Baratari:										
Ba----------------	0-11	6.0-20	0.04-0.08	3.6-5.5	<2	Very low	High-----	High-----	---	---
	11-20	0.6-6.0	0.05-0.10	3.6-5.5	<2	Very low	High-----	High-----	---	
	20-55	6.0-20	0.02-0.06	4.5-6.5	<2	Very low	High-----	Moderate	---	
Bertie:										
Bb----------------	0-17	6.0-20	0.06-0.11	4.5-6.5	<2	Low-------	Moderate	High-----	0.17	5
	17-57	0.6-2.0	0.11-0.16	4.5-6.0	<2	Low-------	Moderate	High-----	0.24	
[1]BC:										
Bertie part-----	0-17	6.0-20	0.06-0.11	4.5-6.5	<2	Low-------	Moderate	High-----	0.17	5
	17-57	0.6-2.0	0.11-0.16	4.5-6.0	<2	Low-------	Moderate	High-----	0.24	
Coosaw part-----	0-27	6.0-20	0.06-0.11	4.5-6.0	<2	Low-------	Moderate	High-----	---	---
	27-31	2.0-6.0	0.08-0.13	4.5-6.0	<2	Low-------	Moderate	High-----	---	
	31-77	0.6-2.0	0.08-0.16	4.5-5.5	<2	Low-------	Moderate	High-----	---	
Tomotley part---	0-13	6.0-20	0.06-0.11	3.6-5.5	<2	Low-------	High-----	High-----	---	---
	13-44	0.6-2.0	0.12-0.18	3.6-5.5	<2	Low-------	High-----	High-----	---	
	44-59	0.2-2.0	0.12-0.18	3.6-6.0	<2	Low-------	High-----	High-----	---	
	59-80	0.6-6.0	0.08-0.12	3.6-6.0	<2	Low-------	High-----	High-----	---	
Bladen:										
Bd----------------	0-8	0.6-2.0	0.10-0.13	3.6-5.5	<2	Low-------	High-----	High-----	---	---
	8-47	0.06-0.2	0.12-0.16	3.6-5.5	<2	Moderate	High-----	High-----	---	
	47-69	0.06-0.2	0.12-0.16	3.6-5.5	<2	Moderate	High-----	High-----	---	

See footnote at end of table.

TABLE 17.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Permea-bility	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete	Erosion factors: K	Erosion factors: T
	In	In/hr	In/in	pH	Mmhos/cm					
Blanton:										
BeB, BeC----------	0-45	6.0-20	0.03-0.07	4.5-6.0	<2	Very low	Low------	High-----	0.17	5
	45-52	2.0-6.0	0.10-0.15	4.5-5.5	<2	Low-------	Moderate	High-----	0.24	
	52-80	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low-------	High-----	High-----	0.32	
Bohicket:										
[1]BK---------------	0-10	0.06-0.2	0.14-0.18	6.1-8.4	>8	High------	High-----	High-----	---	---
	10-49	<0.06	0.12-0.16	6.1-8.4	>8	High------	High-----	High-----	---	
	49-80	---	---	---	---	---------	---------	---------	---	
Bonneau:										
BnA---------------	0-24	6.0-20	0.05-0.11	4.5-5.5	<2	Very low	Low------	High-----	0.17	5
	24-51	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low-------	Low------	High-----	0.20	
	51-83	0.6-2.0	0.10-0.16	4.5-5.5	<2	Low-------	Low------	High-----	0.20	
Borrow pit:										
Bp.										
Buncombe:										
[1]BR---------------	0-7	>6.0	0.06-0.10	4.5-6.5	<2	Low-------	Low------	Moderate	0.10	5
	7-80	>6.0	0.03-0.07	4.5-6.0	<2	Low-------	Low------	Moderate	0.10	
[1]BS:										
Buncombe part---	0-7	>6.0	0.06-0.10	6.1-6.5	<2	Low-------	Low------	Moderate	0.10	5
	7-80	>6.0	0.03-0.07	4.5-6.0	<2	Low-------	Low------	Moderate	0.10	
Santee part-----	0-7	2.0-6.0	0.10-0.15	5.1-7.3	<2	Low-------	High-----	Moderate	---	---
	7-40	0.06-0.2	0.14-0.18	5.6-7.8	<2	Moderate	High-----	Low------	---	
	40-68	0.06-0.6	0.12-0.16	6.1-8.4	<2	Moderate	High-----	Low------	---	
Cape Fear:										
Ca----------------	0-10	0.6-6.0	0.15-0.22	4.5-6.5	<2	Low-------	High-----	High-----	0.15	5
	10-50	0.06-0.2	0.12-0.22	4.5-6.0	<2	Moderate	High-----	High-----	0.32	
Capers:										
[1]CE---------------	0-22	0.06-0.2	0.01-0.03	6.6-8.4	>16	Very high	High-----	High-----	---	---
	22-68	<0.06	0.01-0.03	6.6-8.4	>16	Very high	High-----	High-----	---	
Chipley:										
ChA---------------	0-9	6.0-20	0.05-0.10	4.5-6.0	<2	Very low	Low------	High-----	0.15	5
	9-84	6.0-20	0.03-0.08	4.5-6.0	<2	Very low	Low------	High-----	---	
[1]CK:										
Chipley part----	0-9	6.0-20	0.05-0.10	4.5-6.0	<2	Very low	Low------	High-----	0.15	5
	9-84	6.0-20	0.03-0.08	4.5-6.0	<2	Very low	Low------	High-----	---	
Pelham part-----	0-32	6.0-20	0.05-0.08	4.5-5.5	<2	Very low	High-----	High-----	---	---
	32-80	0.6-2.0	0.10-0.13	4.5-5.5	<2	Low-------	High-----	High-----	---	
Echaw part------	0-8	2.0-6.0	0.05-0.10	4.5-6.0	<2	Very low	Low------	High-----	---	---
	8-34	2.0-6.0	0.05-0.10	4.5-6.0	<2	Very low	Low------	High-----	---	
	34-80	2.0-20	0.03-0.08	4.5-6.0	<2	Very low	Low------	High-----	---	
Chisolm:										
CmB---------------	0-25	6.0-20	0.04-0.10	4.5-6.0	<2	Very low	Low------	High-----	0.20	5
	25-36	0.6-2.0	0.10-0.15	4.5-6.0	<2	Low-------	Low------	High-----	0.20	
	36-45	0.6-2.0	0.10-0.16	4.5-6.0	<2	Low-------	Low------	High-----	---	
	45-57	0.6-6.0	0.08-0.15	4.5-6.0	<2	Low-------	Low------	High-----	---	
	57-80	6.0-20	0.03-0.08	4.5-5.5	<2	Low-------	Low------	High-----	---	
Coastal beaches:										
Co.										
Coosaw:										
Cs----------------	0-27	6.0-20	0.06-0.11	4.5-6.0	<2	Low-------	Moderate	High-----	---	---
	27-31	2.0-6.0	0.08-0.13	4.5-6.0	<2	Low-------	Moderate	High-----	---	
	31-77	0.6-2.0	0.08-0.16	4.5-5.5	<2	Low-------	Moderate	High-----	---	

See footnote at end of table.

TABLE 17.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete	Erosion factors: K	Erosion factors: T
	In	In/hr	In/in	pH	Mmhos/cm					
Coxville:										
Cx----------------	0-14	0.6-2.0	0.12-0.17	4.5-6.0	<2	Low--------	High-----	High-----	---	---
	14-65	0.2-0.6	0.14-0.18	4.5-5.5	<2	Moderate	High-----	High-----	---	
	65-84	---	---	---	---	----------	---------	---------	---	
Deloss:										
De----------------	0-18	2.0-6.0	0.10-0.16	4.5-6.5	<2	Very low	High-----	High-----	---	---
	18-56	0.6-2.0	0.12-0.18	4.5-5.5	<2	Low--------	High-----	High-----	---	
	56-80	2.0-20	0.05-0.12	4.5-6.0	<2	Very low	High-----	High-----	---	
Echaw:										
Ec----------------	0-8	2.0-6.0	0.05-0.10	4.5-6.0	<2	Very low	Low------	High-----	---	---
	8-34	2.0-6.0	0.05-0.10	4.5-6.0	<2	Very low	Low------	High-----	---	
	34-80	2.0-20	0.03-0.08	4.5-6.0	<2	Very low	Low------	High-----	---	
Eddings:										
EdB---------------	0-44	6.0-20	0.05-0.11	4.5-6.5	<2	Low--------	Low------	High-----	0.20	5
	44-57	0.6-2.0	0.10-0.17	4.5-6.5	<2	Low--------	Moderate	High-----	---	
	57-80	0.6-2.0	0.11-0.18	4.5-5.5	<2	Low--------	Moderate	High-----	---	
Eulonia:										
Ee, [1]EU-----------	0-13	2.0-6.0	0.08-0.12	4.5-6.5	<2	Low--------	Moderate	High-----	---	---
	13-48	0.2-0.6	0.12-0.16	4.5-6.0	<2	Low--------	High-----	High-----	---	
	48-80	0.6-2.0	0.10-0.14	4.5-6.0	<2	Low--------	High-----	High-----	---	
Fluvaquents:										
[1]FA:										
Fluvaquents part	0-68	0.06-0.2	0.14-0.20	5.6-8.4	<2	High------	High-----	Moderate	0.20	5
Udipsamments part-----------	0-84	>20	0.02-0.05	5.6-7.3	<2	Very low	Low------	Low------	0.15	5
Fripp:										
[1]Fb:										
Fripp part------	0-5	6.0-20	0.02-0.08	5.6-7.8	<2	Very low	Low------	Low------	0.17	5
	5-80	6.0-20	0.02-0.06	5.6-7.8	<2	Very low	Low------	Low------	0.17	
Baratari part---	0-11	6.0-20	0.04-0.08	3.6-5.5	<2	Very low	High-----	High-----	---	---
	11-20	0.6-6.0	0.05-0.10	3.6-5.5	<2	Very low	High-----	High-----	---	
	20-55	6.0-20	0.02-0.06	4.5-6.5	<2	Very low	High-----	Moderate	---	
Goldsboro:										
GoA---------------	0-13	2.0-6.0	0.08-0.12	4.5-6.0	<2	Low--------	Moderate	High-----	0.17	5
	13-65	0.6-2.0	0.11-0.15	4.5-5.5	<2	Low--------	Moderate	High-----	0.24	
Handsboro:										
[1]HA---------------	0-4	0.6-2.0	0.20-0.30	5.6-8.4	>16	Low--------	High-----	High-----	---	---
	4-84	---	---	5.6-8.4	>16	----------	High-----	High-----	---	
Hobonny:										
[1]HB---------------	0-2	0.2-0.6	0.18-0.22	4.5-5.5	2-4	Moderate	High-----	High-----	---	---
	2-90	0.6-2.0	0.20-0.25	4.5-5.5	2-4	Moderate	High-----	High-----	---	
Lakeland:										
LaB---------------	0-45	>20	0.05-0.08	4.5-6.0	<2	Very low	Low------	Moderate	0.17	5
	45-85	>20	0.03-0.08	4.5-6.0	<2	Very low	Low------	Moderate	---	
Levy:										
[1]LE---------------	0-5	0.06-0.2	0.16-0.22	3.6-5.5	<2	High------	High-----	High-----	---	---
	5-42	0.06-0.2	0.16-0.22	3.6-5.5	<2	High------	High-----	High-----	---	
	42-75	---	---	---	---	----------	---------	---------	---	
Lynchburg:										
Ln----------------	0-17	6.0-20	0.07-0.10	3.6-5.5	<2	Low--------	High-----	High-----	---	---
	17-64	0.6-2.0	0.12-0.16	3.6-5.5	<2	Low--------	High-----	High-----	---	
	64-72	0.6-2.0	0.12-0.16	3.6-5.5	<2	Low--------	High-----	High-----	---	

See footnote at end of table.

TABLE 17.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Permea- bility	Available water capacity	Soil reaction	Salinity	Shrink- swell potential	Risk of corrosion		Erosion factors	
							Uncoated steel	Concrete	K	T
	In	In/hr	In/in	pH	Mmhos/cm					
Lynn Haven:										
Ly----------------	0-16	6.0-20	0.02-0.05	3.6-5.5	<2	Very low	High-----	High-----	---	---
	16-32	0.6-6.0	0.05-0.10	3.6-5.5	<2	Very low	High-----	High-----	---	
	32-60	>20	0.01-0.05	3.6-5.5	<2	Very low	High-----	High-----	---	
Murad:										
Mu----------------	0-49	6.0-20	0.05-0.11	4.5-6.5	<2	Very low	Moderate	High-----	0.20	5
	49-60	0.6-2.0	0.10-0.17	4.5-6.5	<2	Very low	Moderate	High-----	---	
	60-80	0.6-2.0	0.11-0.18	4.5-5.5	<2	Very low	Moderate	High-----	---	
Nemours:										
NeA, NeB----------	0-9	0.6-6.0	0.10-0.14	4.5-6.0	<2	Low-------	Moderate	High-----	0.37	3
	9-44	0.06-0.2	0.12-0.16	3.6-5.5	<2	Moderate	High-----	High-----	---	
	44-55	0.2-2.0	0.12-0.15	3.6-5.5	<2	Low-------	High-----	High-----	---	
	55-80	0.6-6.0	0.09-0.13	3.6-5.5	<2	Low-------	Moderate	High-----	---	
Norfolk:										
NoA, NoB----------	0-15	2.0-6.0	0.06-0.10	4.5-6.0	<2	Low-------	Moderate	High-----	0.17	5
	15-70	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low-------	Moderate	High-----	0.24	
Ocilla:										
Oc----------------	0-33	2.0-20	0.05-0.08	4.5-5.5	<2	Low-------	High-----	Moderate	---	---
	33-85	0.6-2.0	0.09-0.12	4.5-5.5	<2	Low-------	High-----	Moderate	---	
Okeetee:										
Oe----------------	0-7	2.0-6.0	0.12-0.15	4.5-6.5	<2	Low-------	Moderate	High-----	---	---
	7-50	0.06-0.2	0.10-0.15	4.5-6.5	<2	Moderate	High-----	Moderate	---	
	50-78	0.06-0.6	0.10-0.15	5.6-8.4	<2	Moderate	High-----	Moderate	---	
[1]OK:										
Okeetee part----	0-7	2.0-6.0	0.12-0.15	4.5-6.5	<2	Low-------	Moderate	High-----	---	---
	7-50	0.06-0.2	0.10-0.15	4.5-6.5	<2	Moderate	High-----	Moderate	---	
	50-78	0.06-0.6	0.10-0.15	5.6-8.4	<2	Moderate	High-----	Moderate	---	
Eulonia part----	0-13	2.0-6.0	0.08-0.12	4.5-6.5	<2	Low-------	Moderate	High-----	---	---
	13-48	0.2-0.6	0.12-0.16	4.5-5.5	<2	Low-------	High-----	High-----	---	
	48-80	0.6-2.0	0.10-0.14	4.5-6.0	<2	Low-------	High-----	High-----	---	
Onslow:										
On----------------	0-14	>6.0	0.07-0.11	3.6-5.5	<2	Low-------	High-----	High-----	0.17	4
	14-70	0.6-2.0	0.12-0.17	3.6-5.5	<2	Low-------	High-----	High-----	---	
Osier:										
Os----------------	0-5	6.0-20	0.03-0.10	4.5-6.0	<2	Very low	High-----	High-----	---	---
	5-65	6.0-20	0.03-0.10	4.5-6.0	<2	Very low	High-----	High-----	---	
Paxville:										
Pa, [1]PB----------	0-15	2.0-6.0	0.12-0.16	4.5-6.5	<2	Low-------	High-----	High-----	---	---
	15-64	0.6-2.0	0.12-0.18	4.5-5.5	<2	Low-------	High-----	High-----	---	
	64-80	6.0-20	0.05-0.08	4.5-5.5	<2	Low-------	High-----	High-----	---	
Pelham:										
Pe----------------	0-32	6.0-20	0.05-0.08	4.5-5.5	<2	Very low	High-----	High-----	---	---
	32-80	0.6-2.0	0.10-0.13	4.5-5.5	<2	Low-------	High-----	High-----	---	
Pickney:										
Pk----------------	0-30	6.0-20	0.07-0.12	3.6-5.5	<2	Very low	High-----	High-----	---	---
	30-80	6.0-20	0.03-0.11	4.5-6.0	<2	Very low	High-----	High-----	---	
Polawana:										
Po----------------	0-19	6.0-20	0.07-0.12	4.5-7.3	<2	Very low	High-----	High-----	---	---
	19-80	6.0-20	0.04-0.10	4.5-7.3	<2	Very low	High-----	High-----	---	
Rains:										
Ra, [1]RB----------	0-11	2.0-6.0	0.08-0.12	4.5-6.5	<2	Low-------	High-----	High-----	---	---
	11-45	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low-------	High-----	High-----	---	
	45-65	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low-------	High-----	High-----	---	
	65-80	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low-------	High-----	High-----	---	

See footnote at end of table.

TABLE 17.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Permea-bility	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete	Erosion factors: K	Erosion factors: T
	In	In/hr	In/in	pH	Mmhos/cm					
Rains:										
[1]RC:										
Rains part------	0-11	2.0-6.0	0.08-0.12	4.5-6.5	<2	Low-------	High-----	High-----	---	---
	11-45	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low-------	High-----	High-----	---	
	45-65	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low-------	High-----	High-----	---	
	65-80	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low-------	High-----	High-----	---	
Lynchburg part--	0-17	6.0-20	0.07-0.10	3.6-5.5	<2	Low-------	High-----	High-----	---	---
	17-64	0.6-2.0	0.12-0.16	3.6-5.5	<2	Low-------	High-----	High-----	---	
	64-72	0.6-2.0	0.12-0.16	3.6-5.5	<2	Low-------	High-----	High-----	---	
Ridgeland:										
Rd----------------	0-8	6.0-20	0.05-0.10	4.5-6.5	<2	Very low	Moderate	High-----	---	---
	8-15	0.6-6.0	0.04-0.08	4.5-6.5	<2	Very low	Moderate	High-----	---	
	15-35	6.0-20	0.04-0.08	4.5-6.5	<2	Very low	Moderate	High-----	---	
	35-80	0.6-6.0	0.04-0.08	4.5-6.5	<2	Very low	Moderate	High-----	---	
Rosedhu:										
Ro----------------	0-11	6.0-20	0.04-0.08	3.6-5.5	<2	Very low	High-----	High-----	---	---
	11-25	0.6-6.0	0.05-0.10	3.6-5.5	<2	Very low	High-----	High-----	---	
	25-53	6.0-20	0.02-0.06	4.5-6.5	<2	Very low	High-----	Moderate	---	
Santee:										
Sa, [1]SE-----------	0-7	2.0-6.0	0.10-0.15	5.1-7.3	<2	Low-------	High-----	Moderate	---	---
	7-40	0.06-0.2	0.14-0.18	5.6-7.8	<2	Moderate	High-----	Low------	---	
	40-68	0.06-0.6	0.12-0.16	6.1-8.4	<2	Moderate	High-----	Low------	---	
Seabrook:										
Sk----------------	0-10	6.0-20	0.05-0.11	4.5-6.0	<2	Very low	Low------	Moderate	0.10	5
	10-80	6.0-20	0.02-0.09	4.5-6.5	<2	Very low	Low------	Moderate	0.17	
Seewee:										
Sw----------------	0-25	6.0-20	0.05-0.08	3.6-5.5	<2	Very low	Low------	High-----	---	---
	25-45	0.6-6.0	0.04-0.07	5.1-6.0	<2	Very low	Low------	High-----	---	
	45-80	6.0-20	0.04-0.07	5.1-6.0	<2	Very low	Low------	High-----	---	
Tawcaw:										
[1]TC:										
Tawcaw part-----	0-9	0.06-0.2	0.12-0.18	4.5-6.5	<2	Moderate	High-----	High-----	---	---
	9-47	0.06-0.2	0.12-0.16	4.5-6.5	<2	Moderate	High-----	High-----	---	
	47-80	0.2-0.6	0.11-0.16	4.5-6.5	<2	Low-------	High-----	High-----	---	
Chastain part---	0-16	0.06-0.2	0.12-0.16	4.5-5.5	<2	Moderate	High-----	High-----	---	---
	16-54	0.06-0.2	0.12-0.16	4.5-5.5	<2	Moderate	High-----	High-----	---	
	54-80	0.06-0.2	0.12-0.16	4.5-5.5	<2	Moderate	High-----	High-----	---	
Tomotley:										
To----------------	0-13	6.0-20	0.06-0.11	3.6-5.5	<2	Low-------	High-----	High-----	---	---
	13-44	0.6-2.0	0.12-0.18	3.6-5.5	<2	Low-------	High-----	High-----	---	
	44-59	0.2-2.0	0.12-0.18	3.6-6.0	<2	Low-------	High-----	High-----	---	
	59-80	0.6-6.0	0.08-0.12	3.6-6.0	<2	Low-------	High-----	High-----	---	
Udorthents:										
UL----------------	0-6	2.0-6.0	0.05-0.12	4.5-5.5	<2	Low-------	Low------	High-----	0.20	2
	6-80	0.2-0.6	0.10-0.15	5.6-7.8	<2	Moderate	Moderate	Moderate	0.30	
US----------------	0-45	2.0-20	0.03-0.08	5.1-7.3	<2	Low-------	Low------	Moderate	0.17	5
Wahee:										
Wa----------------	0-13	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low-------	Moderate	High-----	---	---
	13-40	0.06-0.2	0.12-0.20	4.5-5.5	<2	Moderate	High-----	High-----	---	
	40-62	0.2-0.6	0.12-0.20	4.5-5.5	<2	Moderate	High-----	High-----	---	
Wando:										
Wd----------------	0-52	6.0-20	0.05-0.08	5.6-7.3	<2	Very low	Low------	Moderate	0.10	5
	52-85	6.0-20	0.03-0.07	5.6-7.3	<2	Very low	Low------	Moderate	0.10	

See footnote at end of table.

TABLE 17.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Permea- bility	Available water capacity	Soil reaction	Salinity	Shrink- swell potential	Risk of corrosion		Erosion factors	
							Uncoated steel	Concrete	K	T
	In	In/hr	In/in	pH	Mmhos/cm					
Williman:										
Wn----------------	0-26	2.0-6.0	0.05-0.11	3.6-5.5	<2	Very low	High-----	High-----	---	---
	26-80	0.6-2.0	0.10-0.16	3.6-5.5	<2	Low-------	High-----	High-----	---	
Yemassee:										
Ye----------------	0-15	6.0-20	0.06-0.11	3.6-6.0	<2	Very low	High-----	High-----	---	---
	15-48	0.6-2.0	0.11-0.18	3.6-5.5	<2	Low-------	High-----	High-----	---	
	48-65	0.6-2.0	0.11-0.17	3.6-5.5	<2	Low-------	High-----	High-----	---	
Yonges:										
Yo----------------	0-18	0.6-6.0	0.09-0.14	5.1-7.3	<2	Low-------	High-----	Moderate	---	---
	18-60	0.2-0.6	0.13-0.18	6.1-7.8	<2	Low-------	High-----	Moderate	---	
	60-80	0.6-2.0	0.12-0.16	6.1-7.8	<2	Low-------	High-----	Moderate	---	
[1]YR:										
Yonges part-----	0-18	0.6-6.0	0.09-0.14	5.1-7.3	<2	Low-------	High-----	Moderate	---	---
	18-60	0.2-0.6	0.13-0.18	6.1-7.8	<2	Low-------	High-----	Moderate	---	
	60-80	0.6-2.0	0.12-0.16	6.1-7.8	<2	Low-------	High-----	Moderate	---	
Argent part-----	0-5	0.6-2.0	0.15-0.20	3.6-6.0	<2	Low-------	Moderate	High-----	---	---
	5-64	0.06-0.2	0.14-0.18	3.6-6.0	<2	Moderate	High-----	High-----	---	
	64-76	0.06-0.6	0.12-0.16	5.6-8.4	<2	Moderate	High-----	Low------	---	

[1]This map unit is made up of two or more dominant kinds of soil. See description of the map unit for composition and behavior characteristics of the whole map unit.

TABLE 18.--SOIL AND WATER FEATURES

[The definitions of "flooding" and "water table" in the Glossary explain terms such as "rare," "brief," "apparent," and "perched." The symbol > means more than. Absence of an entry indicates that the feature is not a concern]

Soil name and map symbol	Hydro-logic group	Flooding			High water table		
		Frequency	Duration	Months	Depth	Kind	Months
					Ft		
Albany:							
Aa	C	Rare	---	---	1.0-2.5	Apparent	Dec-Mar
[1]AB:							
Albany part	C	Rare	---	---	1.0-2.5	Apparent	Dec-Mar
Blanton part	A	None	---	---	>6.0	---	---
[1]AC:							
Albany part	C	Rare	---	---	1.0-2.5	Apparent	Dec-Mar
Pelham part	B/D	Common	Brief	Dec-Mar	0.5-1.5	Apparent	Dec-Apr
Ocilla part	C	None	---	---	1.0-2.5	Apparent	Dec-Apr
Argent:							
Ae, Ag, [1]AN	D	Frequent	Long	Dec-Apr	0-1.0	Apparent	Nov-Apr
[1]AO:							
Argent part	D	Frequent	Long	Dec-Apr	0-1.0	Apparent	Nov-Apr
Okeetee part	D	None	---	---	0.5-1.0	Apparent	Nov-Apr
Baratari:							
Ba	A/D	Rare	---	---	0-1.0	Apparent	Nov-Apr
Bertie:							
Bb	B	None	---	---	1.5-2.5	Apparent	Dec-Mar
[1]BC:							
Bertie part	B	None	---	---	1.5-2.5	Apparent	Dec-Mar
Coosaw part	D	None	---	---	1.0-2.0	Apparent	Dec-Mar
Tomotley part	B/D	Rare	---	---	0-1.0	Apparent	Dec-Mar
Bladen:							
Bd	D	Common	Long	Jan-Apr	0-1.0	Apparent	Nov-Apr
Blanton:							
BeB, BeC	A	None	---	---	>6.0	---	---
Bohicket:							
[1]BK	D	Frequent	Very brief	Jan-Dec	+3-0	Apparent	Jan-Dec
Bonneau:							
BnA	A	None	---	---	3.5-5.0	Apparent	Dec-Mar
Borrow pit:							
Bp.							
Buncombe:							
[1]BR	A	Frequent	Very brief	Feb-Jun	>6.0	---	---
[1]BS:							
Buncombe part	A	Frequent	Very brief	Feb-Jun	>6.0	---	---
Santee part	D	Frequent	Very long	Dec-Apr	0-1.0	Apparent	Nov-Apr
Cape Fear:							
Ca	D	Frequent	Brief	Jan-May	+0.5-1.5	Apparent	Nov-Apr
Capers:							
[1]CE	D	Frequent	Very long	Jan-Dec	+1-1.0	Marsh	Jan-Dec

See footnote at end of table.

TABLE 18.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydro-logic group	Flooding: Frequency	Flooding: Duration	Flooding: Months	High water table: Depth	High water table: Kind	High water table: Months
					Ft		
Chipley:							
ChA	C	None	---	---	2.0-3.0	Apparent	Dec-Mar
[1]CK:							
Chipley part	C	None	---	---	2.0-3.0	Apparent	Dec-Mar
Pelham part	B/D	Common	Brief	Dec-Mar	0.5-1.5	Apparent	Dec-Apr
Echaw part	B	None	---	---	2.5-5.0	Apparent	Nov-Apr
Chisolm:							
CmB	A	None	---	---	4.0-5.0	Apparent	Jan-Mar
Coastal beaches:							
Co.							
Coosaw:							
Cs	D	None	---	---	1.0-2.0	Apparent	Dec-Mar
Coxville:							
Cx	D	None to rare	---	---	0-2.5	Apparent	Nov-Apr
Deloss:							
De	D	Rare	---	---	0-1.0	Apparent	Nov-Apr
Echaw:							
Ec	B	None	---	---	2.5-5.0	Apparent	Nov-Apr
Eddings:							
EdB	C	None	---	---	3.5-4.5	Apparent	Jan-Feb
Eulonia:							
Ee, [1]EU	C	None	---	---	1.5-3.5	Apparent	Dec-Mar
Fluvaquents:							
[1]FA:							
Fluvaquents part	D	Common	Long	Dec-Mar	0.0-3.0	Apparent	Dec-Mar
Udipsamments part	A	None	---	---	>6.0	---	---
Fripp:							
[1]Fb:							
Fripp part	A	Rare	---	---	>6.0	---	---
Baratari part	A/D	Rare	---	---	0-1.0	Apparent	Nov-Apr
Goldsboro:							
GoA	B	None	---	---	2.0-3.0	Apparent	Dec-Mar
Handsboro:							
[1]HA	D	Frequent	Very long	Jan-Dec	+3-0.5	Marsh	Jan-Dec
Hobonny:							
[1]HB	D	Frequent	Very long	Jan-Dec	+1-0	Apparent	Jan-Dec
Lakeland:							
LaB	A	None	---	---	>6.0	---	---
Levy:							
[1]LE	D	Frequent	Very long	Jan-Dec	+2-+1	Apparent	Jan-Dec
Lynchburg:							
Ln	B/D	None	---	---	0.5-1.5	Apparent	Dec-Mar
Lynn Haven:							
Ly	B/D	None	---	---	0-1.0	Apparent	Nov-Apr

See footnote at end of table.

TABLE 18.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydro-logic group	Flooding			High water table		
		Frequency	Duration	Months	Depth	Kind	Months
					Ft		
Murad:							
Mu	C	None	---	---	1.5-3.0	Apparent	Jan-Mar
Nemours:							
NeA, NeB	C	None	---	---	1.5-2.5	Apparent	Dec-Mar
Norfolk:							
NoA, NoB	B	None	---	---	>6.0	---	---
Ocilla:							
Oc	C	None	---	---	1.0-2.5	Apparent	Dec-Apr
Okeetee:							
Oe	D	None	---	---	0.5-1.0	Apparent	Nov-Apr
[1]OK:							
Okeetee part	D	None	---	---	0.5-1.0	Apparent	Nov-Apr
Eulonia part	C	None	---	---	1.5-3.5	Apparent	Nov-Apr
Onslow:							
On	B	None	---	---	1.5-3.0	Apparent	Nov-Apr
Osier:							
Os	D	Common	Brief	Dec-Apr	0.0-1.0	Apparent	Nov-Apr
Paxville:							
Pa, [1]PB	D	Rare	---	---	0-1.0	Apparent	Nov-Apr
Pelham:							
Pe	B/D	Common	Brief	Dec-Mar	0.5-1.5	Apparent	Nov-Apr
Pickney:							
Pk	D	Common	Very long	Dec-Mar	0-1.0	Apparent	Nov-Apr
Polawana:							
Po	D	Frequent	Very long	Dec-Mar	0-0.5	Apparent	Nov-Apr
Rains:							
Ra, [1]RB	B/D	Rare to common	Brief	Dec-Mar	0-1.0	Apparent	Nov-Apr
[1]RC:							
Rains part	B/D	Rare	Brief	Dec-Mar	0-1.0	Apparent	Nov-Apr
Lynchburg part	B/D	None	---	---	0.5-1.5	Apparent	Dec-Mar
Ridgeland:							
Rd	D	Rare	---	---	1.5-2.5	Apparent	Nov-Apr
Rosedhu:							
Ro	B/D	Common	Very long	Dec-May	0-1.0	Apparent	Nov-Jun
Santee:							
Sa, [1]SE	D	Frequent	Very long	Dec-Apr	0-1.0	Apparent	Nov-Apr
Seabrook:							
Sk	C	None	---	---	2.0-4.0	Apparent	Dec-Mar
Seewee:							
Sw	B	Rare	---	---	1.0-2.0	Apparent	Nov-Mar
Tawcaw:							
[1]TC:							
Tawcaw part	C	Common	Long	Dec-Apr	1.5-2.5	Apparent	Nov-Apr
Chastain part	D	Common	Very long	Dec-Apr	0-1.0	Apparent	Nov-May
Tomotley:							
To	B/D	Rare	---	---	0-1.0	Apparent	Nov-Apr

See footnote at end of table.

TABLE 18.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydro-logic group	Flooding			High water table		
		Frequency	Duration	Months	Depth	Kind	Months
					Ft		
Udorthents:							
UL	B	None	---	---	>6.0	---	---
US	B	Rare	---	---	3.0-4.0	Apparent	Dec-Mar
Wahee:							
Wa	D	None	---	---	0-1.0	Apparent	Dec-Mar
Wando:							
Wd	A	None	---	---	>6.0	---	---
Williman:							
Wn	D	Rare	---	---	0-1.0	Apparent	Nov-Apr
Yemassee:							
Ye	B	None	---	---	1.0-1.5	Apparent	Dec-Mar
Yonges:							
Yo	D	Common	Long	Nov-Mar	0-1.0	Apparent	Nov-Apr
[1]YR:							
Yonges part	D	Common	Long	Nov-Mar	0-1.0	Apparent	Nov-Apr
Argent part	D	Frequent	Long	Dec-Apr	0-1.0	Apparent	Nov-Apr

[1]This map unit is made up of two or more dominant kinds of soil. See description of the map unit for composition and behavior characteristics of the whole map unit.

TABLE 19.--ENGINEERING TEST DATA

[Tests performed by South Carolina State Highway Department, in cooperation with the Bureau of Public Roads, U.S. Department of Commerce, in accordance with standard procedures of the American Association of State Highway and Transportation Officials (AASHTO) (1)]

Soil name and location	Parent material	Laboratory number	Depth from surface	Moisture density[1]: Maximum dry density[3]	Moisture density[1]: Optimum moisture	Mechanical analysis[2]: Percentage passing sieve--: No. 10 (2.0 mm)	Percentage passing sieve--: No. 40 (0.42 mm)	Percentage passing sieve--: No. 200 (0.074 mm)	Percentage smaller than 0.005 mm	Liquid limit	Plasticity index	Classification: AASHTO	Classification: Unified
			In		Pct					Pct			
Coosaw loamy fine sand: 10.5 miles southeast of Ridgeland; 1,800 feet west of intersection of S.C. Secondary Highway 54 with S.C. Highway 170; 100 feet north of S.C. Highway 170.	Loamy Coastal Plain sediments.	H-99545	7-17	---	---	100	99	20	7	NP	NP	A-2-4	SM
		H-99546	27-36	---	---	100	99	36	28	28	6	A-4(0)	SM-SC
		H-99547	47-66	---	---	100	99	31	25	26	4	A-2-4	SM
Eulonia fine sandy loam: 3.25 miles southeast of Hardeeville on S.C. Highway 45; 100 feet southwest of S.C. Highway 46.	Clayey Coastal Plain sediments.	H-99529	0-5	---	---	100	99	31	13	NP	NP	A-2-4	SM
		H-99530	19-29	---	---	100	98	59	50	41	15	A-7-6(7)	ML
		H-99531	29-48	---	---	100	99	45	38	34	11	A-6(2)	SC
		H-99532	48-58	---	---	100	100	38	33	30	6	A-4(1)	SM
Handsboro clay: 12.75 miles southeast of Hardeeville; 4.5 miles east of U.S. Highway 17A; 250 feet north of road dike where dike changes from E-W direction to SE-NW direction; 0.8 mile north of Savannah River.	Herbaceous and woody plant remains and strata of loamy and clayey Coastal Plain sediments.	7A-31,028	5-24	---	---	85	60	37	28	NP	NP	A-4	Pt
		7A-31,029	24-48	---	---	90	60	35	25	NP	NP	A-2-4	Pt
		7A-31,030	48-58	---	---	93	73	53	39	69	16	A-7-5(6)	MH
Nemours fine sandy loam: 3.5 miles northeast of Gardens Corner; 165 feet southeast of U.S. Highway 17.	Clayey Coastal Plain sediments.	H-99533	0-7	---	---	100	95	41	16	NP	NP	A-4(1)	SM
		H-99534	18-44	---	---	100	97	63	47	41	16	A-7-6(8)	CL
		H-99535	55-63	---	---	100	92	28	24	NP	NP	A-2-4	SM
Seabrook fine sand: 6.5 miles south-southwest of Beaufort; 1.5 miles west of S.C. Secondary Highway 45; 1,200 feet north of farm road; 50 feet east of hedgerow.	Sandy Coastal Plain sediments.	G-66650	0-10	103	15	100	99	11	6	NP	NP	A-2-4	SP-SM
		G-66651	28-35	108	14	100	100	19	13	NP	NP	A-2-4	SM
		G-66652	50-72	106	15	100	99	8	2	NP	NP	A-3	SP-SM
Seewee fine sand: 1 mile southeast of Frogmore; 0.7 mile south of the intersection of S.C. Secondary Highway 470 and U.S. Highway 21, 200 feet east of S.C. Secondary Highway 470.	Sandy Coastal Plain sediments.	G-66648	0-8	99	14	100	100	7	5	NP	NP	A-3	SP-SM
		G-66649	25-45	99	19	100	99	3	1	NP	NP	A-3	SP
		G-66647	45-80	98	19	100	100	1	0	NP	NP	A-3	SP

See footnotes at end of table.

TABLE 19.--ENGINEERING TEST DATA--Continued

Soil name and location	Parent material	Labor- atory number	Depth from surface	Moisture density[1]: Maximum dry density[3]	Moisture density[1]: Optimum moisture	Mechanical analysis[2]: Percentage passing sieve--: No. 10 (2.0 mm)	Mechanical analysis[2]: Percentage passing sieve--: No. 40 (0.42 mm)	Mechanical analysis[2]: Percentage passing sieve--: No. 200 (0.074 mm)	Mechanical analysis[2]: Percentage smaller than 0.005 mm	Liquid limit	Plasticity index	Classification: AASHTO	Classification: Unified
			In		Pct					Pct			
Yemassee loamy fine sand:													
0.4 mile northwest of Sheldon; 0.25 mile northwest of crossing of U.S. Highway 17 and Seaboard Coast Line Railroad; 50 feet south of U.S. Highway 17	Loamy Coastal Plain sediments.	H-99542	7-18	---	---	100	100	29	12	NP	NP	A-2-4	SM
		H-99543	22-52	---	---	100	100	41	28	23	3	A-4(1)	SM
		H-99544	52-85	---	---	100	99	31	25	25	4	A-2-4	SM

[1]Based on AASHTO Designation: T 99-57, Method A(1).

[2]Mechanical analysis according to AASHTO Designation T 88-57 (1). Results by this procedure may differ somewhat from results obtained by the soil survey procedure of the Soil Conservation Service (SCS). In the AASHTO procedure, the fine material is analyzed by the hydrometer method and the various grain-size fractions are calculated on the basis of all the material, including that coarser than 2 millimeters in diameter. In the SCS soil survey procedure, the fine material is analyzed by the pipette method and the material coarser than 2 millimeters in diameter is excluded from calculations of grain-size fractions. The mechanical analysis data used in this table are not suitable for naming textural classes for soils.

[3]Pounds per cubic foot.

TABLE 20.--CLASSIFICATION OF THE SOILS

Soil name	Family or higher taxonomic class
Albany	Loamy, siliceous, thermic Grossarenic Paleudults
Argent	Fine, mixed, thermic Typic Ochraqualfs
Baratari	Sandy, mixed, thermic Aeric Haplaquods
Bertie	Fine-loamy, mixed, thermic Aquic Hapludults
Bladen	Clayey, mixed, thermic Typic Albaquults
Blanton	Loamy, siliceous, thermic Grossarenic Paleudults
Bohicket	Fine, mixed, nonacid, thermic Typic Sulfaquents
Bonneau	Loamy, siliceous, thermic Arenic Paleudults
Buncombe	Mixed, thermic Typic Udipsamments
Cape Fear	Clayey, mixed, thermic Typic Umbraquults
Capers	Fine, mixed, nonacid, thermic Typic Sulfaquents
Chastain	Fine, kaolinitic, acid, thermic Typic Fluvaquents
Chipley	Thermic, coated Aquic Quartzipsamments
Chisolm	Loamy, mixed, thermic Arenic Hapludults
Coosaw	Loamy, mixed, thermic Arenic Hapludults
Coxville	Clayey, kaolinitic, thermic Typic Paleaquults
Deloss	Fine-loamy, mixed, thermic Typic Umbraquults
Echaw	Sandy, siliceous, thermic Entic Haplohumods
Eddings	Loamy, mixed, thermic Grossarenic Hapludults
Eulonia	Clayey, mixed, thermic Aquic Hapludults
Fluvaquents.	
Fripp	Mixed, thermic Typic Udipsamments
Goldsboro	Fine-loamy, siliceous, thermic Aquic Paleudults
Handsboro	Euic, thermic Typic Sulfihemists
Hobonny	Euic, thermic Typic Medisaprists
Lakeland	Thermic, coated Typic Quartzipsamments
Levy	Very-fine, mixed, acid, thermic Typic Hydraquents
Lynchburg	Fine-loamy, siliceous, thermic Aeric Paleaquults
Lynn Haven	Sandy, siliceous, thermic Typic Haplaquods
Murad	Loamy, mixed, thermic Grossarenic Hapludults
Nemours	Clayey, mixed, thermic Aquic Hapludults
Norfolk	Fine-loamy, siliceous, thermic Typic Paleudults
Ocilla	Loamy, siliceous, thermic Aquic Arenic Paleudults
Okeetee	Fine, mixed, thermic Aeric Ochraqualfs
Onslow	Fine-loamy, siliceous, thermic Spodic Paleudults
Osier	Siliceous, thermic Typic Psammaquents
Paxville	Fine-loamy, siliceous, thermic Typic Umbraquults
Pelham	Loamy, siliceous, thermic Arenic Paleaquults
Pickney	Sandy, siliceous, thermic Cumulic Humaquepts
Polawana	Sandy, mixed, thermic Cumulic Humaquepts
Rains	Fine-loamy, siliceous, thermic Typic Paleaquults
Ridgeland	Sandy, mixed, thermic Typic Haplaquods
Rosedhu	Sandy, mixed, thermic Typic Haplaquods
Santee	Fine, mixed, thermic Typic Argiaquolls
Seabrook	Mixed, thermic Aquic Udipsamments
Seewee	Sandy, mixed, thermic Entic Haplaquods
Tawcaw	Fine, kaolinitic, thermic Fluvaquentic Dystrochrepts
Tomotley	Fine-loamy, mixed, thermic Typic Ochraquults
Udipsamments.	
Udorthents.	
Wahee	Clayey, mixed, thermic Aeric Ochraquults
Wando	Mixed, thermic Typic Udipsamments
Williman	Fine-loamy, mixed, thermic Typic Ochraquults
Yemassee	Fine-loamy, mixed, thermic Aeric Ochraquults
Yonges	Fine-loamy, mixed, thermic Typic Ochraqualfs

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LEGEND*

(Not all soil units occur in both counties)

SOILS ON THE PENHOLOWAY AND WICOMICO TERRACES

1 GOLDSBORO–LYNCHBURG–RAINS: Moderately well drained and somewhat poorly drained soils that have a sandy surface layer and loamy subsoil, and poorly drained soils that are loamy throughout

2 OCILLA–CHIPLEY–BLANTON: Somewhat poorly drained and moderately well drained soils that have a thick sandy surface layer and a loamy subsoil, and moderately well drained soils that are sandy throughout

3 PAXVILLE–RAINS–LYNCHBURG: Very poorly drained and poorly drained soils that are loamy throughout, and somewhat poorly drained soils that have a sandy surface layer and a loamy subsoil

SOILS ON THE PAMLICO TERRACE

4 SANTEE: Very poorly drained soils that have a loamy surface layer and clayey subsoil

5 BUNCOMBE: Excessively drained soils that are sandy throughout

6 ARGENT–OKEETEE: Poorly drained and somewhat poorly drained soils that have a loamy surface layer and a clayey subsoil

7 BLADEN–COOSAW–WAHEE: Poorly drained and somewhat poorly drained soils that have a loamy surface layer and a clayey subsoil, and somewhat poorly drained soils that have a thick sandy surface layer and a loamy subsoil

8 WANDO–SEABROOK–SEEWEE: Excessively drained, moderately well drained, and somewhat poorly drained soils that are sandy throughout

9 COOSAW–WILLIMAN–RIDGELAND: Somewhat poorly drained and poorly drained soils that have a thick sandy surface layer and a loamy subsoil, and somewhat poorly drained soils that are sandy throughout

10 FRIPP–BARATARI: Excessively drained and poorly drained soils that are sandy throughout

SOILS ON THE FLOOD PLAINS AND TIDAL MARSH

11 TAWCAW–CHASTAIN: Somewhat poorly drained soils that are clayey throughout, and poorly drained soils that have a loamy surface layer and a clayey subsoil

12 BOHICKET–CAPERS–HANDSBORO: Very poorly drained mineral and organic soils that are flooded daily or occasionally by saltwater, and adjacent upstream areas that are flooded occasionally by freshwater

*Terms for texture refer to the surface layer of the major soils.

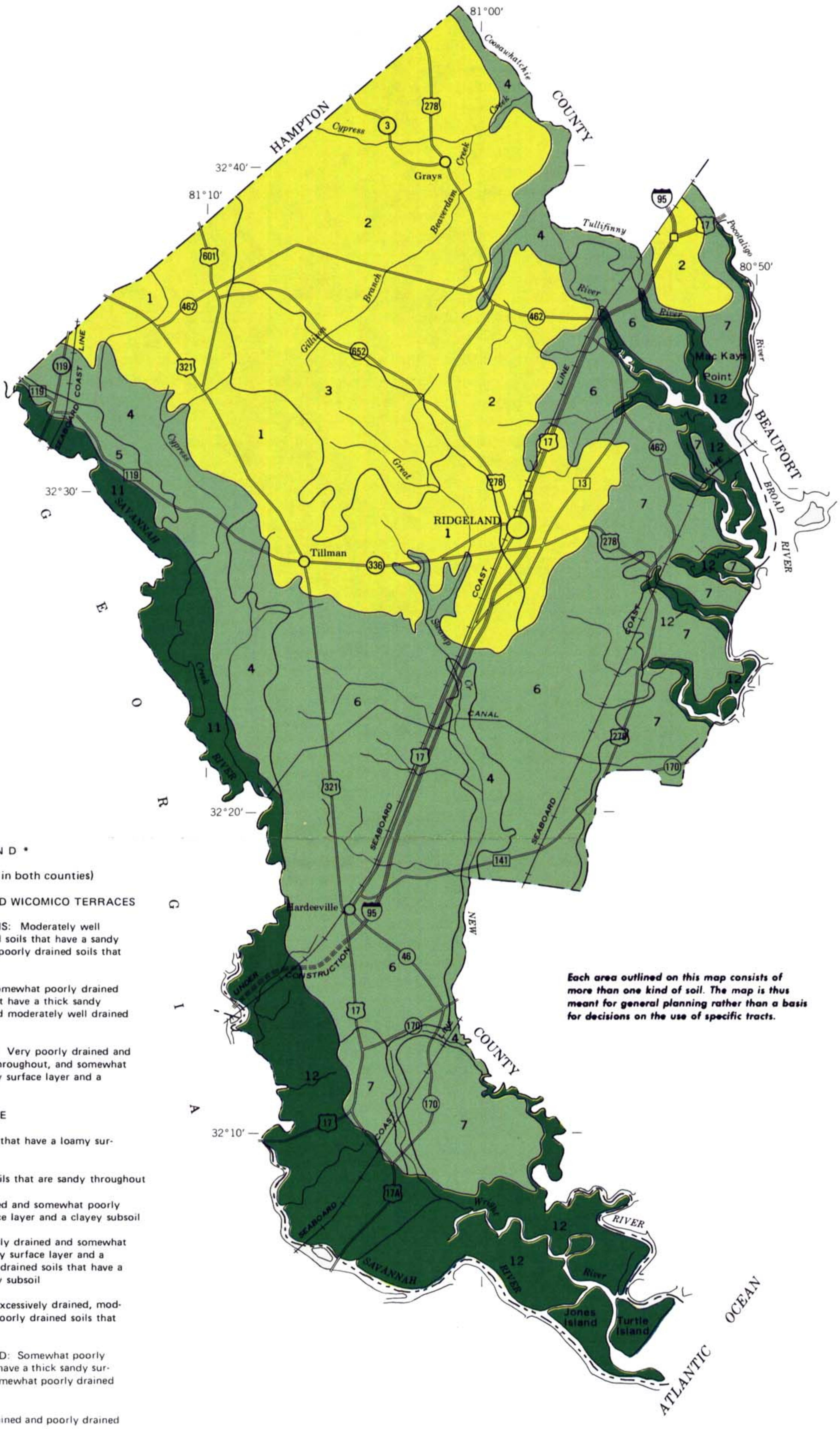
Compiled 1977

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SOUTH CAROLINA AGRICULTURAL EXPERIMENT STATION,
SOUTH CAROLINA LAND RESOURCES CONSERVATION COMMISSION

GENERAL SOIL MAP

BEAUFORT COUNTY, SOUTH CAROLINA

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.



Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.

LEGEND*

(Not all soil units occur in both counties)

SOILS ON THE PENHOLOWAY AND WICOMICO TERRACES

1 — GOLDSBORO–LYNCHBURG–RAINS: Moderately well drained and somewhat poorly drained soils that have a sandy surface layer and loamy subsoil, and poorly drained soils that are loamy throughout

2 — OCILLA–CHIPLEY–BLANTON: Somewhat poorly drained and moderately well drained soils that have a thick sandy surface layer and a loamy subsoil, and moderately well drained soils that are sandy throughout

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SOILS ON THE FLOOD PLAINS AND TIDAL MARSH

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12 — BOHICKET–CAPERS–HANDSBORO: Very poorly drained mineral and organic soils that are flooded daily or occasionally by saltwater, and adjacent upstream areas that are flooded occasionally by freshwater

*Terms for texture refer to the surface layer of the major soils.

Compiled 1977

N

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SOUTH CAROLINA AGRICULTURAL EXPERIMENT STATION,
SOUTH CAROLINA LAND RESOURCES CONSERVATION COMMISSION

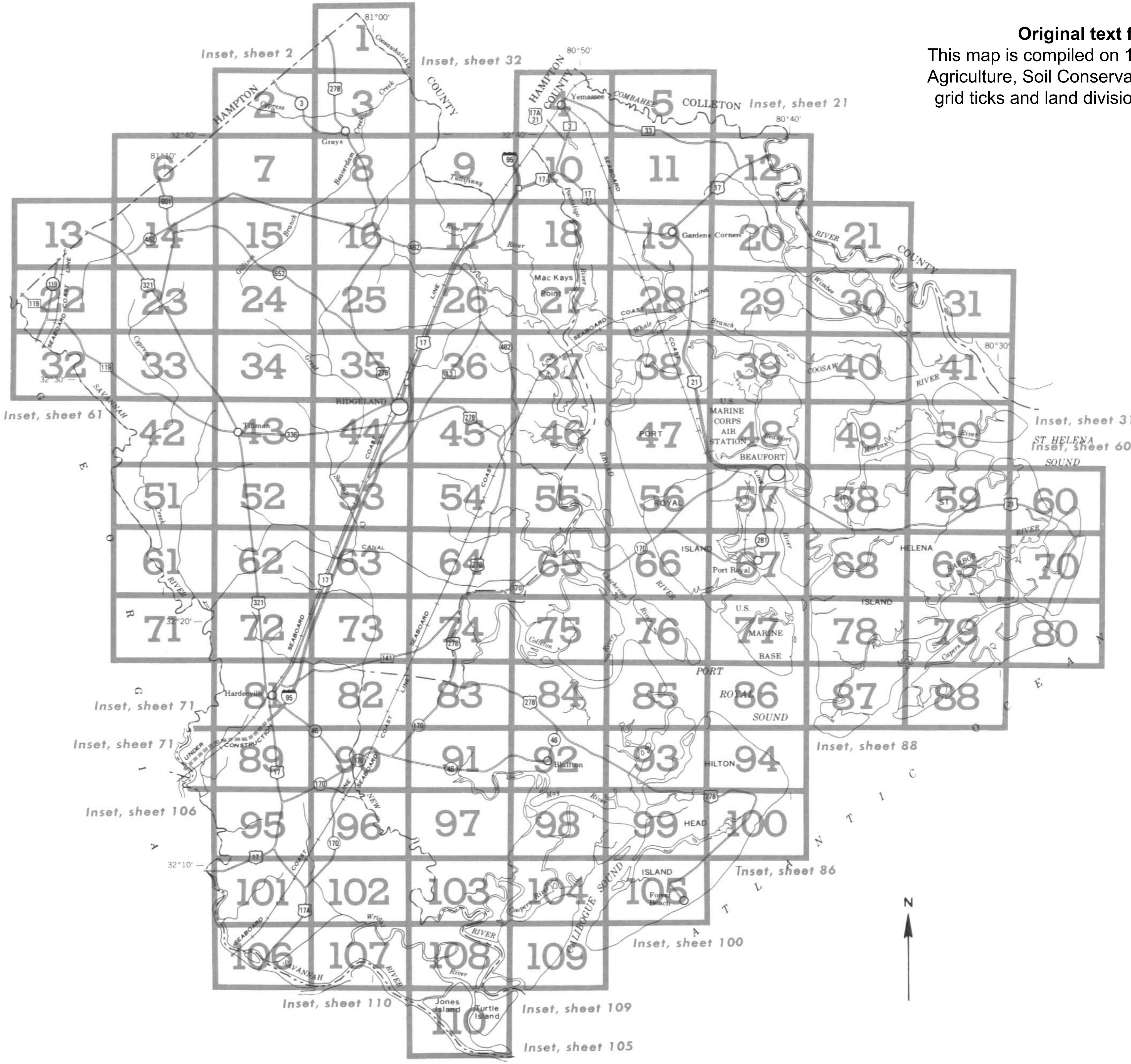
GENERAL SOIL MAP

JASPER COUNTY, SOUTH CAROLINA

Scale 1:253,440

1 0 1 2 3 4 Miles

Original text from each individual map sheet read:
This map is compiled on 1975 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



INDEX TO MAP SHEETS
BEAUFORT AND JASPER COUNTIES,
SOUTH CAROLINA

Scale 1: 316,800
1 0 1 2 3 4 5 Miles

SOIL LEGEND

The first capital letter is the initial one of the soil name. The second is lower case for a narrowly defined unit and a capital letter for a broadly defined unit. 1/ The third position, if used, is a capital letter and connotes slope class. Symbols without a slope letter are for nearly level soils.

SYMBOL	NAME
Aa	Albany loamy fine sand, 0 to 2 percent slopes
AB	Albany-Blanton association
AC	Albany-Pelham-Ocilla association
Ae	Argent fine sandy loam
Ag	Argent clay loam
AN	Argent association
AO	Argent-Okeetee association
Ba	Baratari fine sand
Bb	Bertie loamy fine sand
BC	Bertie-Coosaw-Tomotley association
Bd	Bladen fine sandy loam
BeB	Blanton fine sand, 0 to 6 percent slopes
BeC	Blanton fine sand, 6 to 10 percent slopes
BK	Bohicket association
BnA	Bonneau loamy sand, 0 to 2 percent slopes
Bp	Borrow Pit
BR	Buncombe association
BS	Buncombe-Santee association
Ca	Cape Fear loam
CE	Capers association
ChA	Chipley fine sand, 0 to 2 percent slopes
CK	Chipley-Pelham-Echaw association
CmB	Chisolm loamy fine sand, 0 to 6 percent slopes
CO	Coastal Beaches
Cs	Coosaw loamy fine sand
Cx	Coxville fine sandy loam
De	Deloss fine sandy loam
Ec	Echaw loamy fine sand
EdB	Eddings fine sand, 0 to 6 percent slopes
Ee	Eulonia fine sandy loam
EU	Eulonia association
FA	Fluvaquents and Udipsamments
Fb	Fripp-Baratari complex
GoA	Goldsboro loamy fine sand, 0 to 2 percent slopes
HA	Handsboro soils
HB	Hobonny soils
LaB	Lakeland fine sand, 0 to 6 percent slopes
LE	Levy soils
Ln	Lynchburg loamy fine sand
Ly	Lynn Haven fine sand
Mu	Murad fine sand
NeA	Nemours fine sandy loam, 0 to 2 percent slopes
NeB	Nemours fine sandy loam, 2 to 6 percent slopes
NoA	Norfolk loamy fine sand, 0 to 2 percent slopes
NoB	Norfolk loamy fine sand, 2 to 6 percent slopes
Oc	Ocilla loamy fine sand
Oe	Okeetee fine sandy loam
OK	Okeetee-Eulonia association
On	Onslow loamy fine sand
Os	Osier loamy sand
Pa	Paxville fine sandy loam
PB	Paxville association
Pe	Pelham loamy sand
Pk	Pickney loamy fine sand
Po	Polawana loamy fine sand
Ra	Rains fine sandy loam
RB	Rains association
RC	Rains-Lynchburg association
Rd	Ridgeland fine sand
Ro	Rosedhu fine sand
Sa	Santee fine sandy loam
SE	Santee association
Sk	Seabrook fine sand
Sw	Seewee fine sand
TC	Tawcaw-Chastain association
To	Tomotley loamy fine sand
UL	Udorthents, loamy
US	Udorthents, sandy
Wa	Wahee fine sandy loam
Wd	Wando fine sand, 0 to 6 percent slopes
Wn	Williman loamy fine sand
Ye	Yemassee loamy fine sand
Yo	Yonges loamy fine sand
YR	Yonges-Argent association

1/ Delineations generally are much larger and the composition of the unit is more variable than for others in the survey area. Mapping has been controlled well enough to be interpreted for the anticipated uses of the areas involved.

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park, and large airport)
- Land grant
- Limit of soil survey (label)
- Field sheet matchline & neatline

AD HOC BOUNDARY (label)

- Small airport, airfield, park, oilfield, cemetery, or flood pool (Davis Airstrip; FLOOD POOL LINE)

STATE COORDINATE TICK

LAND DIVISION CORNERS (sections and land grants)

ROADS

- Divided (median shown if scale permits)
- Other roads
- Trail

ROAD EMBLEMS & DESIGNATIONS

- Interstate (79)
- Federal (410)
- State (52)
- County, farm or ranch (378)

RAILROAD

POWER TRANSMISSION LINE (normally not shown)

PIPE LINE (normally not shown)

FENCE (normally not shown)

LEVEES

- Without road
- With road
- With railroad

DAMS

- Large (to scale)
- Medium or small (water; w)

PITS

- Gravel pit
- Mine or quarry

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house (omit in urban areas)
- Church
- School
- Indian mound (label) — Indian Mound
- Located object (label) — Tower
- Tank (label) — GAS
- Wells, oil or gas
- Windmill
- Kitchen midden

WATER FEATURES

DRAINAGE

- Perennial, double line
- Perennial, single line
- Intermittent
- Drainage end
- Canals or ditches
  - Double-line (label) — CANAL
  - Drainage and/or irrigation

LAKES, PONDS AND RESERVOIRS

- Perennial (water; w)
- Intermittent (int; i)

MISCELLANEOUS WATER FEATURES

- Marsh or swamp
- Spring
- Well, artesian
- Well, irrigation
- Wet spot
- Dug pond (small)

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS (CeA; FoB2)

ESCARPMENTS

- Bedrock (points down slope)
- Other than bedrock (points down slope)

SHORT STEEP SLOPE

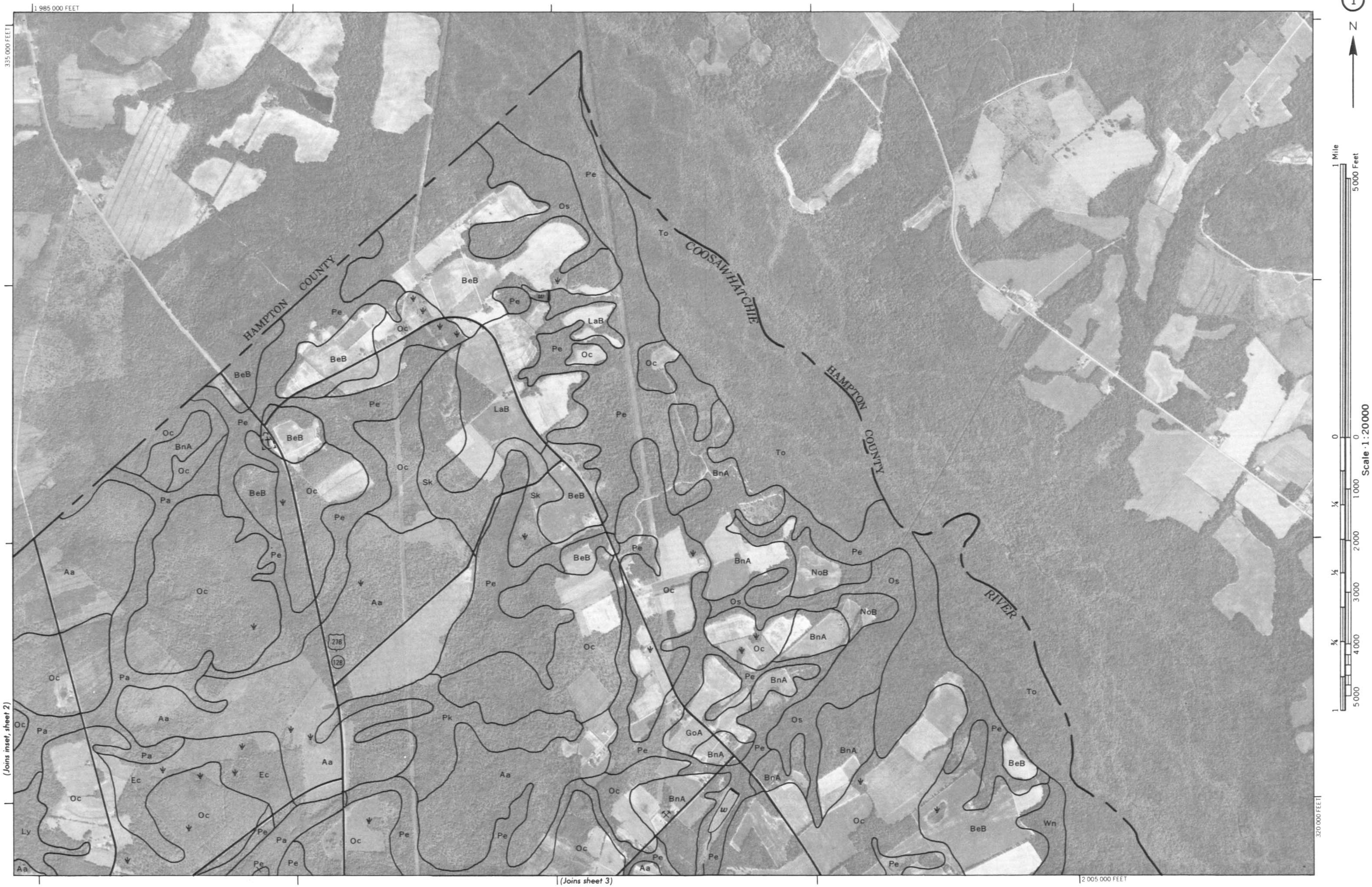
GULLY

DEPRESSION OR SINK

SOIL SAMPLE SITE (normally not shown) (S)

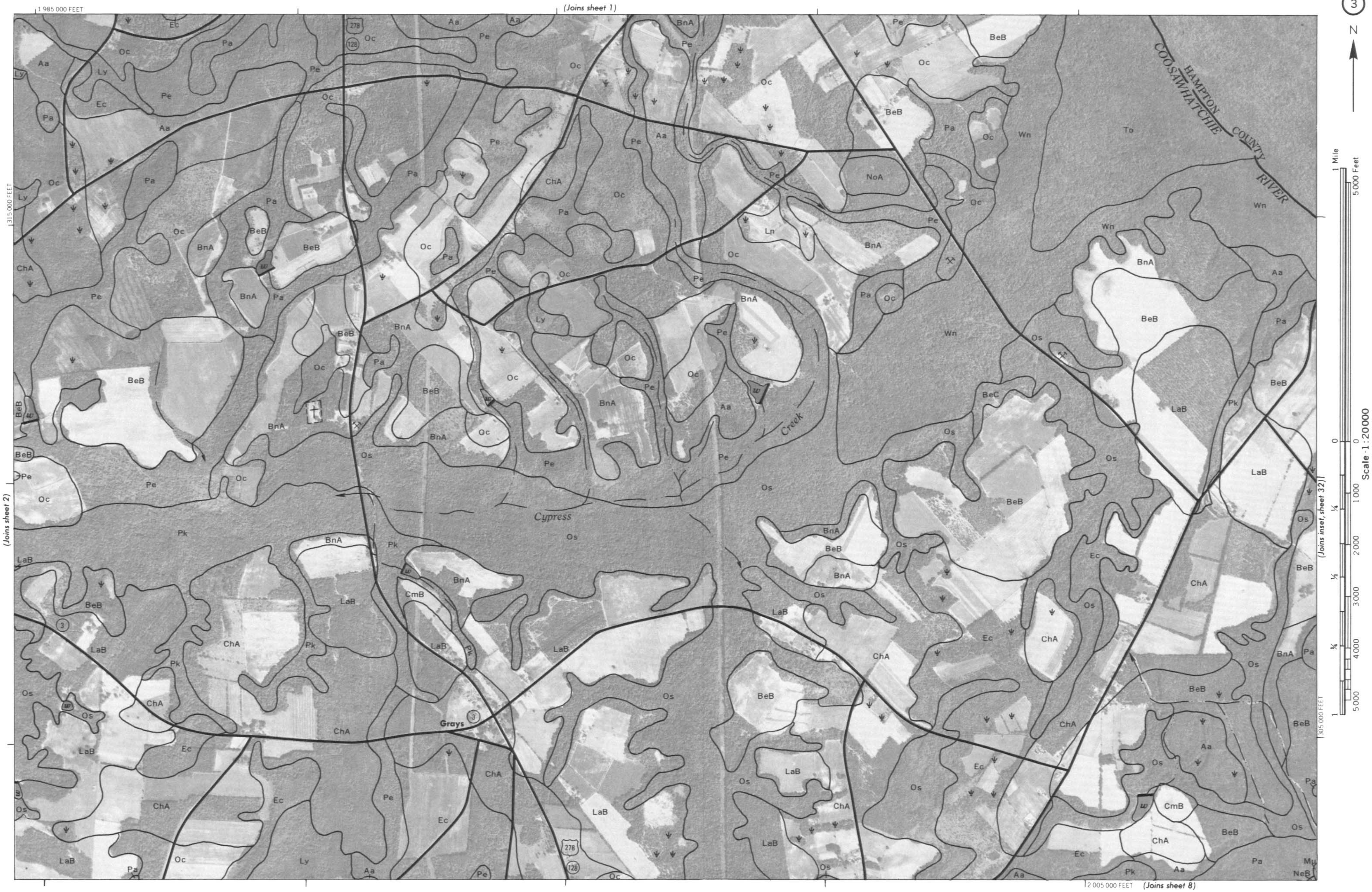
MISCELLANEOUS

- Blowout
- Clay spot
- Gravelly spot
- Gumbo, slick or scabby spot (sodic)
- Dumps and other similar non soil areas
- Prominent hill or peak
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip (tips point upslope)
- Stony spot, very stony spot


1
N
1 985 000 FEET
335 000 FEET
HAMPTON COUNTY
COOSAWHATCHIE
HAMPTON COUNTY
RIVER
Pe
Os
To
BeB
Pe
LaB
Oc
BeB
Pe
Oc
BeB
Pe
Oc
BnA
Oc
Pe
BeB
LaB
Pe
Oc
Sk
Sk
BeB
BnA
To
Pa
BeB
Oc
Pe
Pe
BeB
Pe
BnA
NoB
Os
Aa
Oc
Aa
Pe
Oc
Os
NoB
BnA
Oc
276
128
Oc
Oc
Pe
BnA
To
Oc
Pa
Aa
Pk
GoA
Os
Pe
Pa
Ec
Ec
Aa
Pe
BnA
BnA
BnA
BeB
Oc
Oc
Aa
Oc
BnA
Oc
BeB
Wn
Ly
Pe
Pa
Oc
Pe
Pe
Oc
Pe
Pe
Aa
Pe
Pe
Aa
(Joins inset, sheet 2)
(Joins sheet 3)
2 005 000 FEET
320 000 FEET
1 Mile
5000 Feet
0
¼
½
¾
1
0
1000
2000
3000
4000
5000
Scale 1:20000

2
N
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
1 980 000 FEET
(Joins inset)
1 984 000 FEET
325 000 FEET
320 000 FEET
1 979 000 FEET
(Joins upper right)
(Joins sheet 1)
315 000 FEET
(Joins sheet 3)
305 000 FEET
1 960 000 FEET
(Joins sheet 7)
HAMPTON COUNTY
HAMPTON COUNTY
Cypress
Creek
Pa
Aa
Oc
Ly
Ec
Ra
BnA
LaB
BeB
Pe
Os
Pk
ChA
On
GoA
AB
AC
PB

BEAUFORT AND JASPER COUNTIES, SOUTH CAROLINA — SHEET NUMBER 3

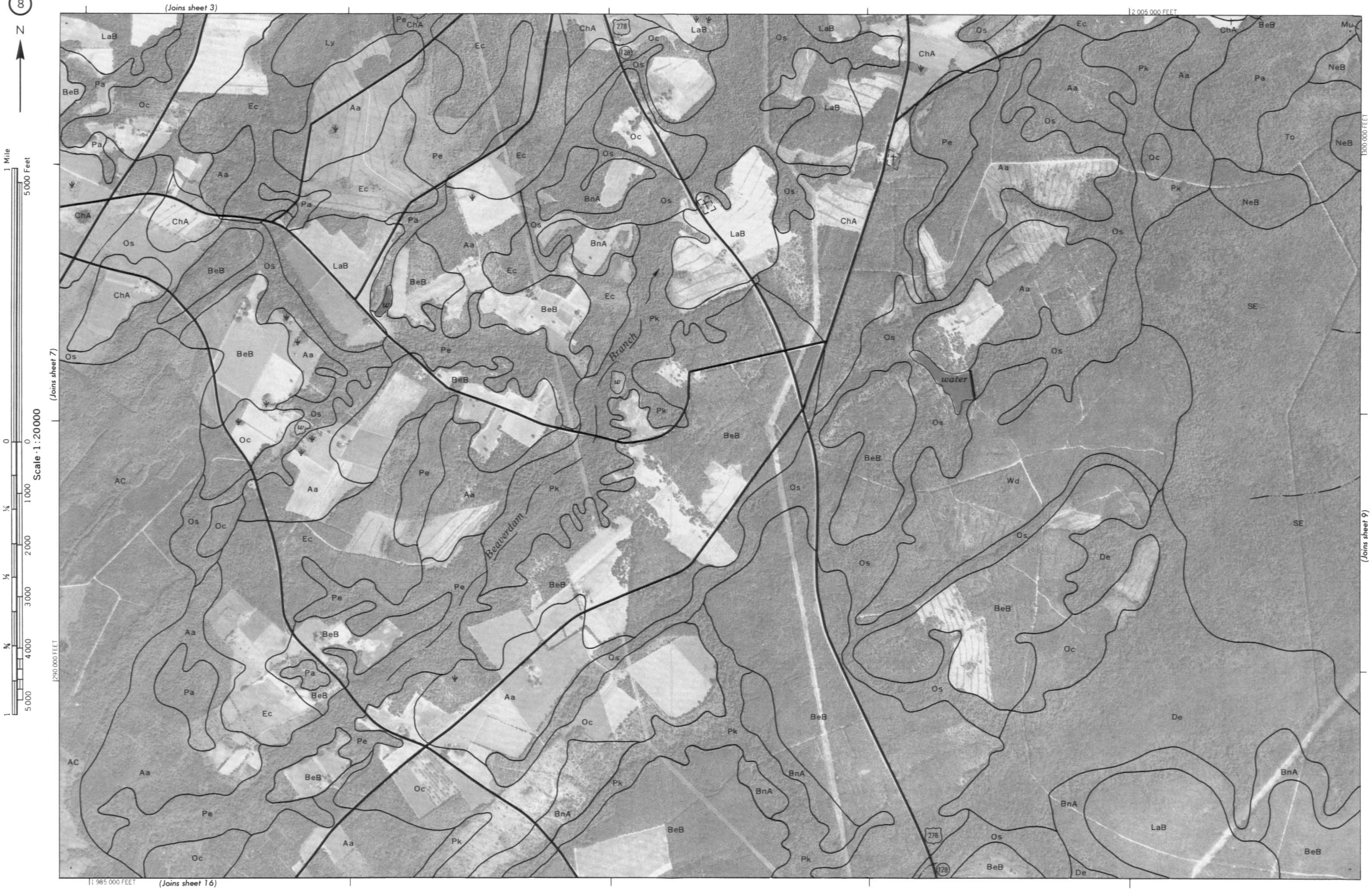



4
N
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
2 055 000 FEET
315 000 FEET
305 000 FEET
2 035 000 FEET
COMBAHEE
COLLETON
COUNTY
RIVER
HAMPTON
COUNTY
LINE
Yemassee
SEABOARD
COAST
LINE
17A
21
water
(Joins sheet 5)
(Joins sheet 10)
Os
Mu
Ye
Bd
Cs
Wn
Wa
Rd
Ae
NeB
NeA
Sa
Ag
Bb
Bp
EdB


5
N
2 060 000 FEET
315 000 FEET
305 000 FEET
2 080 000 FEET
(Joins sheet 4)
(Joins inset, sheet 21)
(Joins sheet 11)
1 Mile
5000 Feet
0
¼
½
¾
1
0
1000
2000
3000
4000
5000
Scale 1:20000
COMBAHEE
RIVER
COLLETON
COUNTY
Os
Wn
Mu
Wa
Bd
NeA
Sa
Ag
NeB
HB
Bb
water
w


6
N
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
1 960 000 FEET
300 000 FEET
290 000 FEET
1 940 000 FEET
(Joins sheet 7)
(Joins sheet 14)
HAMPTON COUNTY
SEABOARD COAST LINE
601
462
Aa
AC
BnA
BeB
GoA
Ln
NoA
NoB
Oc
Pa
Pe
Ra


1 960 000 FEET
(Joins sheet 2)
N
300 000 FEET
250 000 FEET
1 980 000 FEET
(Joins sheet 6)
(Joins sheet 8)
(Joins sheet 15)
1 Mile
5000 Feet
Scale 1:20000
0
¼
½
¾
1
0
1000
2000
3000
4000
5000
462
Pe
Oc
Aa
AC
AB
ChA
PB
BnA
LaB
Pa
BeB
Os
On
Oc
CK
ChA


N
Scale 1:20000
1 Mile
5000 Feet
0
¼
½
¾
1
0
1000
2000
3000
4000
5000
(Joins sheet 3)
(Joins sheet 7)
(Joins sheet 9)
(Joins sheet 16)
2 005 000 FEET
300 000 FEET
290 000 FEET
1 985 000 FEET
278
128
Beaverdam
Branch
water
LaB
Pa
BeB
Oc
Ly
ChA
Ec
Aa
Pe
Os
Pk
BnA
Mu
NeB
To
SE
Wd
De
AC
Pa
w


(Joins inset, sheet 32)
2 010 000 FEET
300 000 FEET
(Joins sheet 8)
(Joins sheet 10)
(Joins sheet 17)
2 030 000 FEET
290 000 FEET
9
N
1 Mile
5000 Feet
Scale 1:20000
COOSAWHATCHIE RIVER
HAMPTON COUNTY
TULIFINNY RIVER
HAMPTON COUNTY LINE
SEABOARD COAST LINE
Pa
Mu
De
NeB
To
SE
Bd
Cs
Sa
CmB
AN
RC
BnA
BeB
LaB
ChA
Ae
On
Bp
Ln
Ca
Ye
Aa
BeB
w


(Joins sheet 4)
(Joins sheet 9)
(Joins sheet 11)
(Joins sheet 18)
N
1 Mile
5 000 Feet
Scale 1:20000
2 055 000 FEET
2 035 000 FEET
300 000 FEET
290 000 FEET
HAMPTON COUNTY LINE
BEAUFORT COUNTY
JASPER COUNTY
SEABOARD COAST LINE
POCOTALIGO RIVER
Pocotaligo
Kress
Tomotley
water


11
N
(Joins sheet 5)
(Joins sheet 10)
(Joins sheet 12)
(Joins sheet 19)
2 060 000 FEET
2 080 000 FEET
300 000 FEET
290 000 FEET
SEABOARD COAST LINE
water
1 Mile
5000 Feet
Scale 1:20000


N
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
(Joins inset, sheet 21)
(Joins sheet 11)
(Joins sheet 20)
2 105 000 FEET
300 000 FEET
290 000 FEET
2 085 000 FEET
COMBAHEE
COLLETON COUNTY
COLLETON RIVER
COMBAHEE RIVER
water
17


13
N
1 915 000 FEET
285 000 FEET
275 000 FEET
1 935 000 FEET
(Joins sheet 14)
(Joins sheet 22)
1 Mile
5000 Feet
Scale 1:20000
HAMPTON COUNTY
SEABOARD COAST LINE
Long Branch
water
321
119
GoA
Ra
Ln
NoA
NoB
BnA
Oc
Pa
Pe
Cx
LnB
Bp
AN
SE

N

1 Mile
5000 Feet
Scale 1:20000
0 1000 2000 3000 4000 5000
0 ¼ ½ ¾ 1

(Joins sheet 6)

(Joins sheet 13)

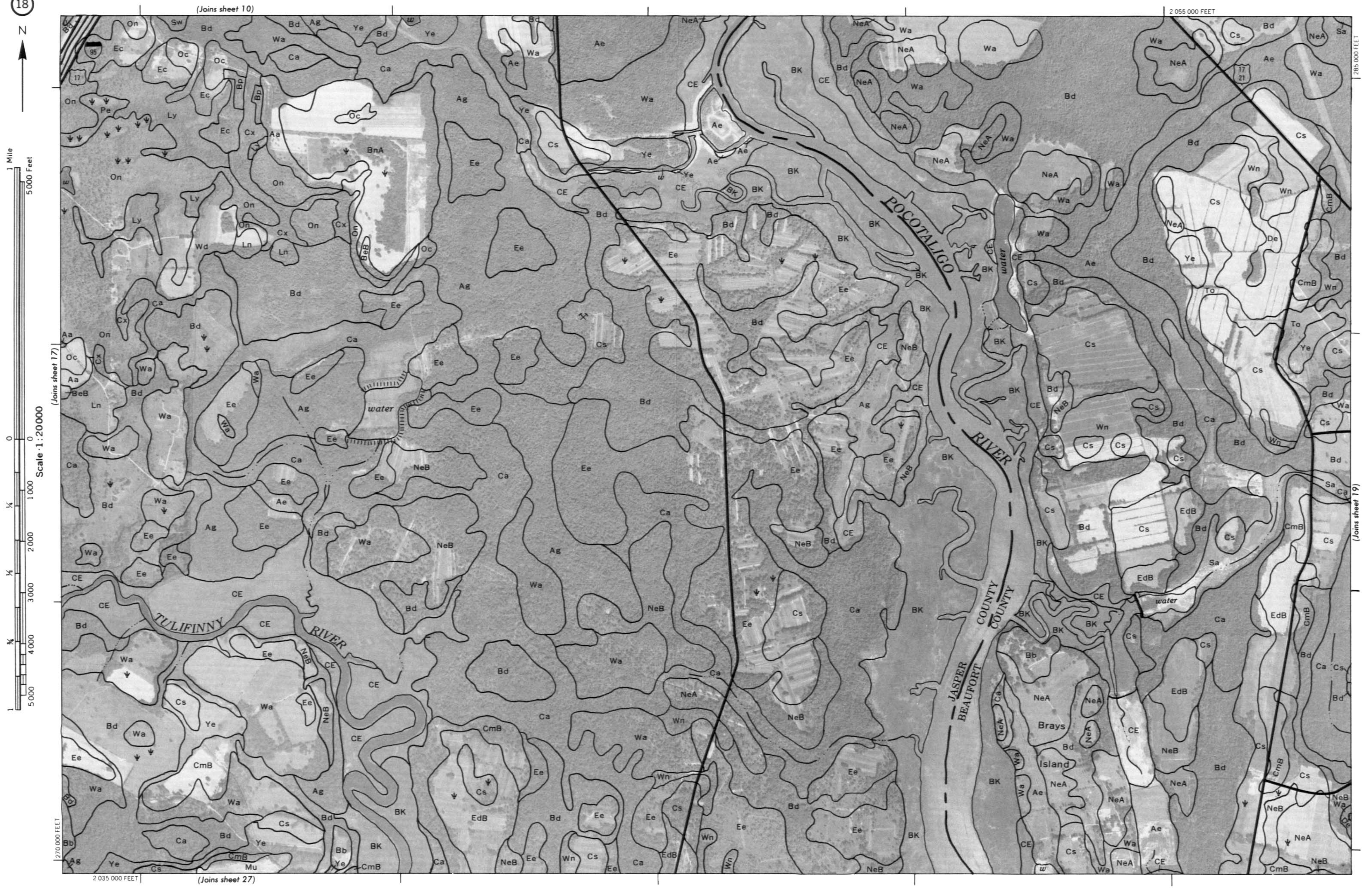
(Joins sheet 15)

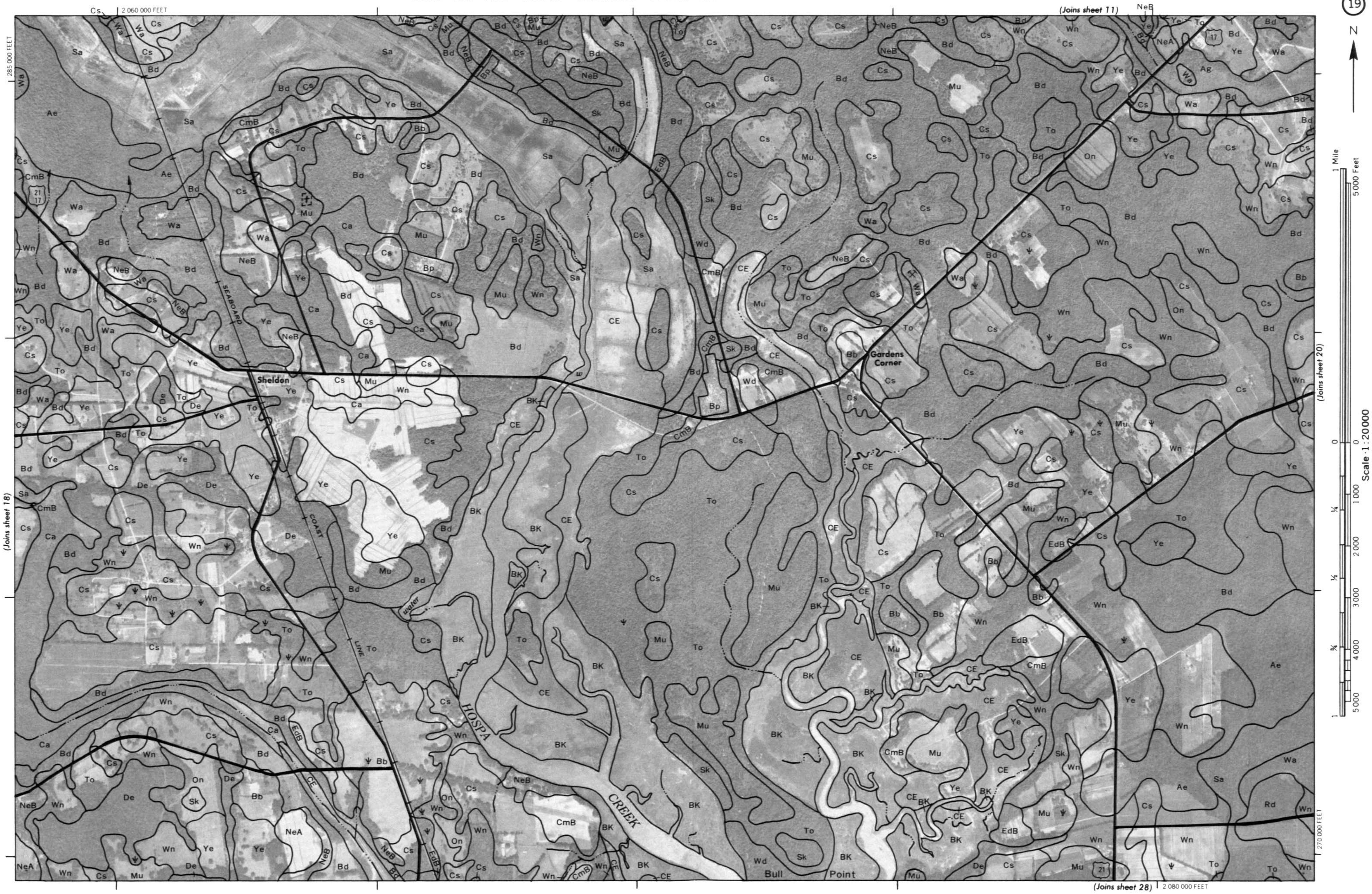
(Joins sheet 23)


15
N
(Joins sheet 7)
(Joins sheet 14)
(Joins sheet 16)
(Joins sheet 24)
1 960 000 FEET
1 980 000 FEET
285 000 FEET
270 000 FEET
1 Mile
5000 Feet
Scale 1:20000
0
¼
½
¾
1
1000
2000
3000
4000
5000
462
652
Aa
AC
PB
CK
Oc
Ra
ChA
Ly
Ln
Pa
GoA
Pe
Os
RB
AB

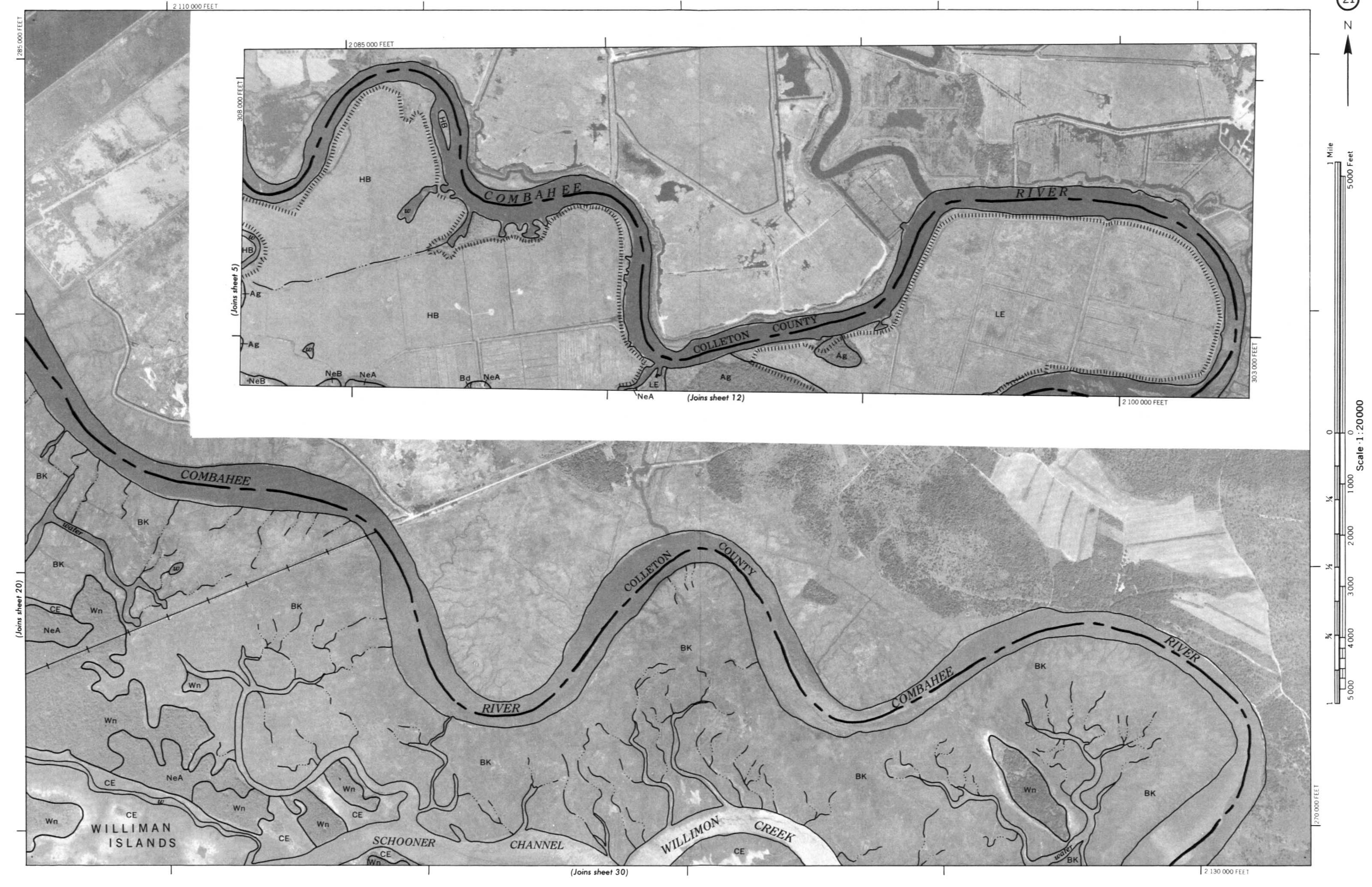

16
N
(Joins sheet 8)
(Joins sheet 15)
(Joins sheet 17)
(Joins sheet 25)
2 005 000 FEET
285 000 FEET
270 000 FEET
1 985 000 FEET
Gillisonville
water
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000


(Joins sheet 9)
(Joins sheet 16)
(Joins sheet 18)
(Joins sheet 26)
2 010 000 FEET
2 030 000 FEET
285 000 FEET
270 000 FEET
N
Scale 1:20000
1 Mile
5000 Feet
COOSAWHATCHIE RIVER
TULIFINNY RIVER
Coosawatchie
SEABOARD COAST LINE
water
95
17
462


18
N
1 Mile
5000 Feet
Scale 1:20000
(Joins sheet 10)
(Joins sheet 17)
(Joins sheet 19)
(Joins sheet 27)
2 055 000 FEET
285 000 FEET
2 035 000 FEET
270 000 FEET
POCOTALIGO RIVER
TULIFINNY RIVER
JASPER COUNTY
BEAUFORT COUNTY
Brays Island
water

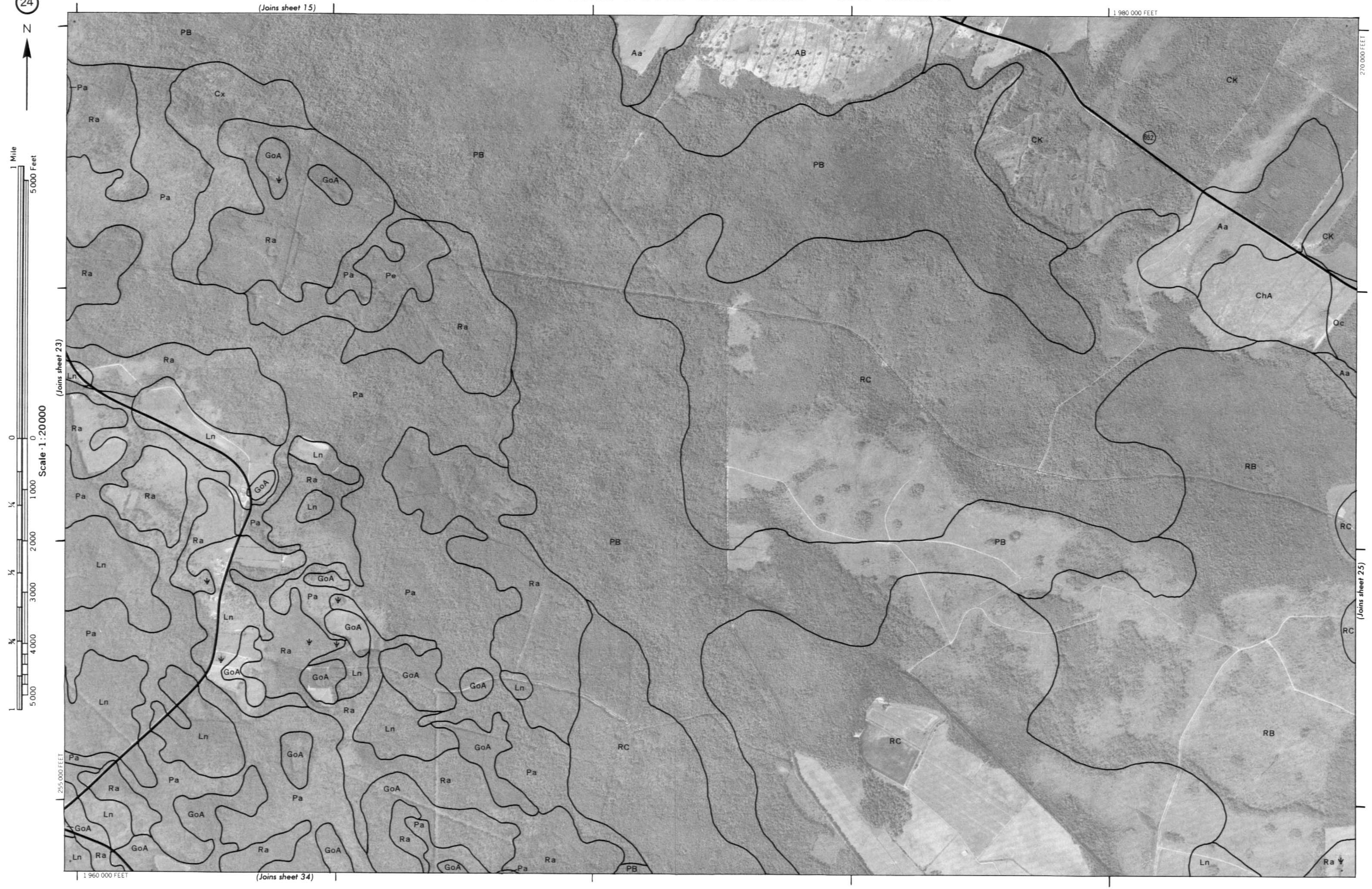

19
N
(Joins sheet 11)
(Joins sheet 18)
(Joins sheet 20)
(Joins sheet 28)
2 060 000 FEET
2 080 000 FEET
285 000 FEET
270 000 FEET
Sheldon
Gardens Corner
HOSPA
CREEK
Bull
Point
SEABOARD
COAST
LINE
water
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
¼
½
¾


20
N
(Joins sheet 12)
(Joins sheet 19)
(Joins sheet 21)
(Joins sheet 29)
2 105 000 FEET
285 000 FEET
2 085 000 FEET
270 000 FEET
Scale 1:20000
1 Mile
5000 Feet
0
1000
2000
3000
4000
5000
COLLETON COUNTY
COMBAHEE RIVER
BRANFORD
True Blue Creek
CREEK
WIMBEE
Briars Creek
CREEK
WILLIMAN ISLANDS
water


21
N
COMBAHEE
RIVER
COLLETON
COUNTY
HB
LE
Ag
NeB
NeA
Bd
w
(Joins sheet 5)
(Joins sheet 12)
(Joins sheet 20)
(Joins sheet 30)
BK
Wn
CE
water
WILLIMAN ISLANDS
SCHOONER
CHANNEL
WILLIMON
CREEK
2 110 000 FEET
2 085 000 FEET
308 000 FEET
303 000 FEET
2 100 000 FEET
285 000 FEET
270 000 FEET
2 130 000 FEET
Scale 1:20000
1 Mile
5000 Feet

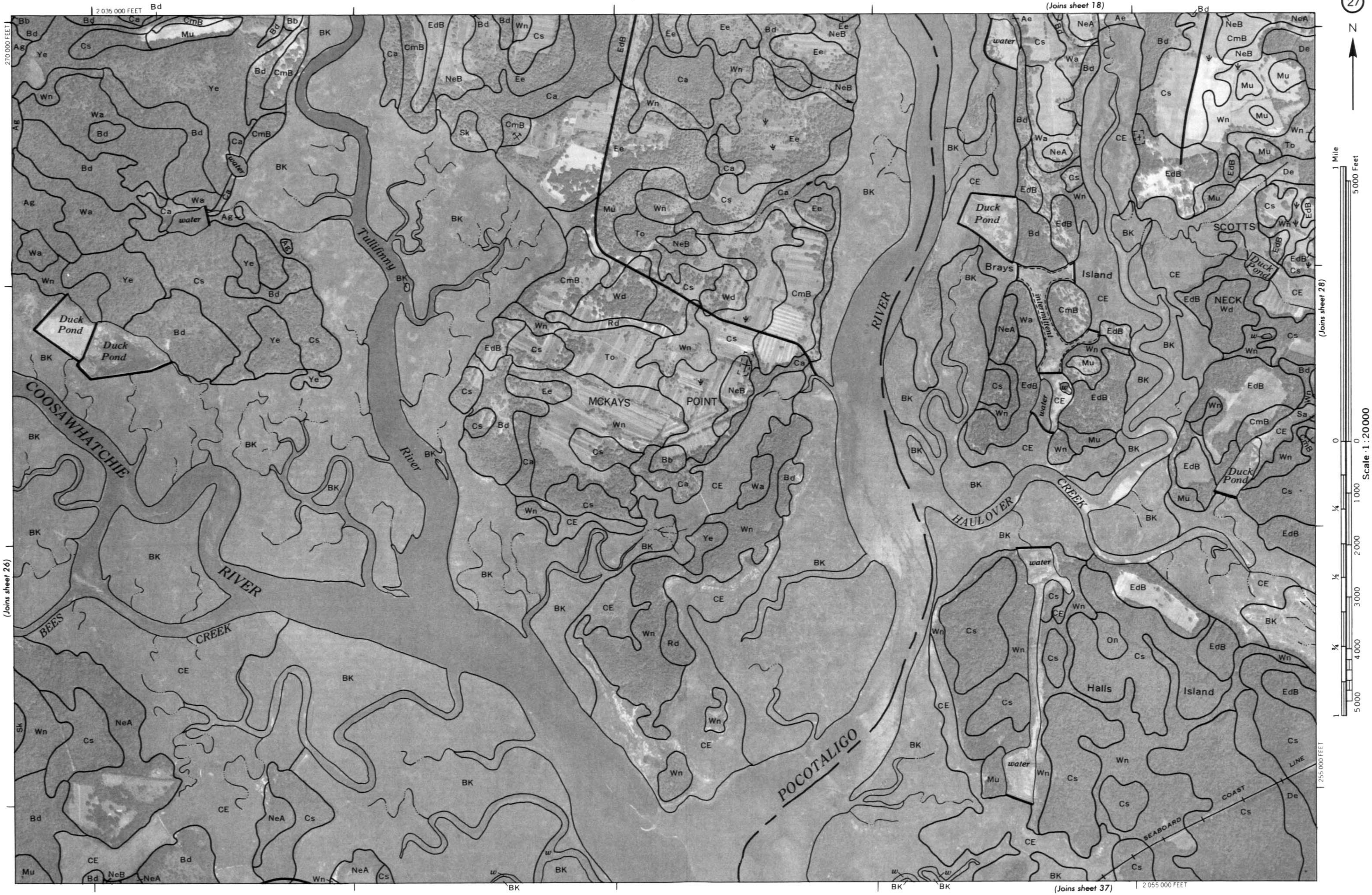

(Joins sheet 13)
(Joins sheet 23)
(Joins sheet 32)
N
1 Mile
5000 Feet
Scale 1:20000
0
¼
½
¾
1
1000
2000
3000
4000
5000
1 935 000 FEET
270 000 FEET
225 000 FEET
1 915 000 FEET
HAMPTON COUNTY
SEABOARD COAST LINE
SAVANNAH RIVER
EFFINGHAM COUNTY
GEORGIA
Long Branch
Black Swamp
119
water
AN
SE
AO
AN
OK
BR
TC
Bp
NoA
NoB
GoA
Ra
Cx
Ln
Oc
Ra

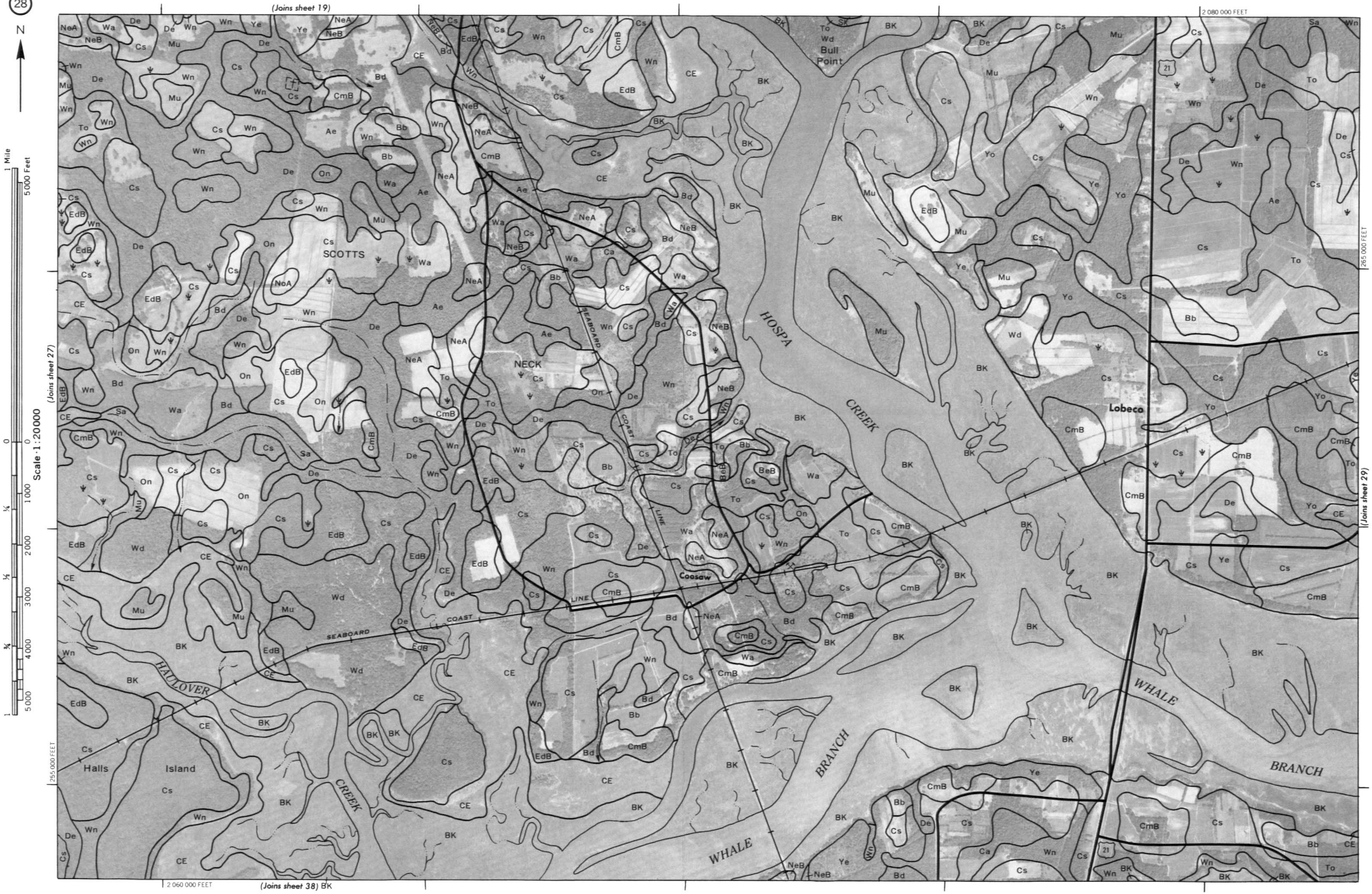

23
N
(Joins sheet 14)
(Joins sheet 24)
(Joins sheet 22)
(Joins sheet 33)
1 940 000 FEET
1 960 000 FEET
270 000 FEET
255 000 FEET
Black Swamp
Cypress
Branch
SEABOARD
COAST
LINE
321
601
1 Mile
5000 Feet
Scale 1:20000


(Joins sheet 15)
(Joins sheet 23)
(Joins sheet 25)
(Joins sheet 34)
1 980 000 FEET
270 000 FEET
255 000 FEET
1 960 000 FEET
N
1 Mile
5000 Feet
Scale 1:20000
652
PB
Aa
AB
CK
Pa
Cx
Ra
GoA
Pe
Ln
RC
RB
ChA
Oc


1 985 000 FEET
270 000 FEET
(Joins sheet 16)
(Joins sheet 26)
(Joins sheet 24)
(Joins sheet 35)
2 005 000 FEET
255 000 FEET
N
1 Mile
5000 Feet
Scale 1:20000
128
278
652
CK
Aa
Oc
ChA
RB
RC
Ra
Pe
Ln
Ec
Ly
BeB
BnA
Pk
AN
Ca
Pa
LaB
GoA
BeB
Bp
Os
water

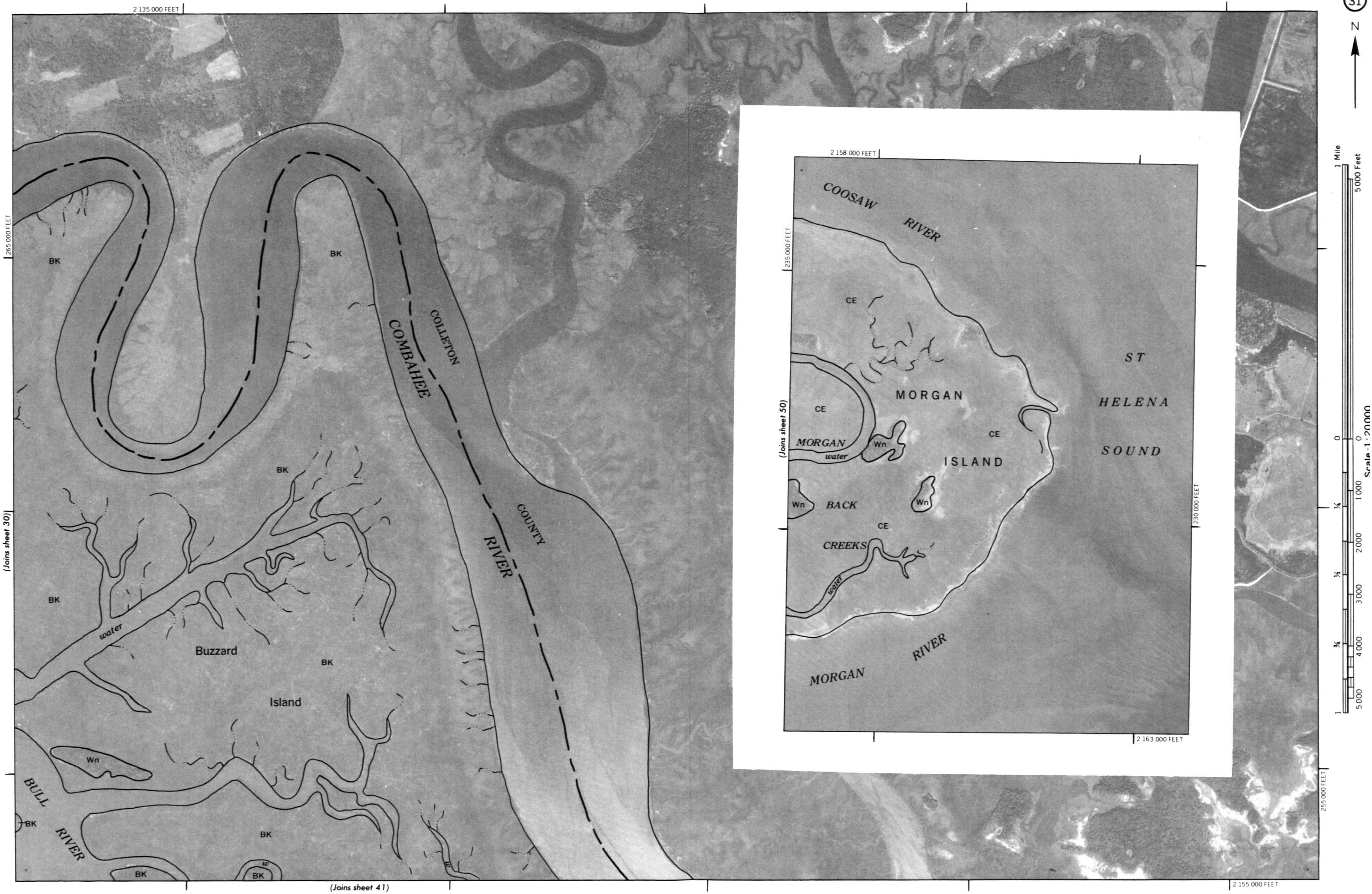

(Joins sheet 17)
(Joins sheet 25)
(Joins sheet 27)
(Joins sheet 36)
N
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
¼
½
¾
2 030 000 FEET
270 000 FEET
255 000 FEET
2 010 000 FEET
COOSAWHATCHIE
RIVER
BEES
CREEK
Bees
Creek
Duck Pond
water
intermittent
SEABOARD
COAST
LINE
95
17
462


27
N
(Joins sheet 18)
(Joins sheet 28)
(Joins sheet 26)
(Joins sheet 37)
2 035 000 FEET
2 055 000 FEET
270 000 FEET
255 000 FEET
COOSAWHATCHIE
RIVER
BEES
CREEK
Tullifinny
River
MCKAYS
POINT
POCOTALIGO
RIVER
Brays
Island
HAULOVER
CREEK
SCOTTS
NECK
Halls
Island
Duck Pond
water
intermittent
SEABOARD
COAST
LINE
1 Mile
5000 Feet
Scale 1:20000

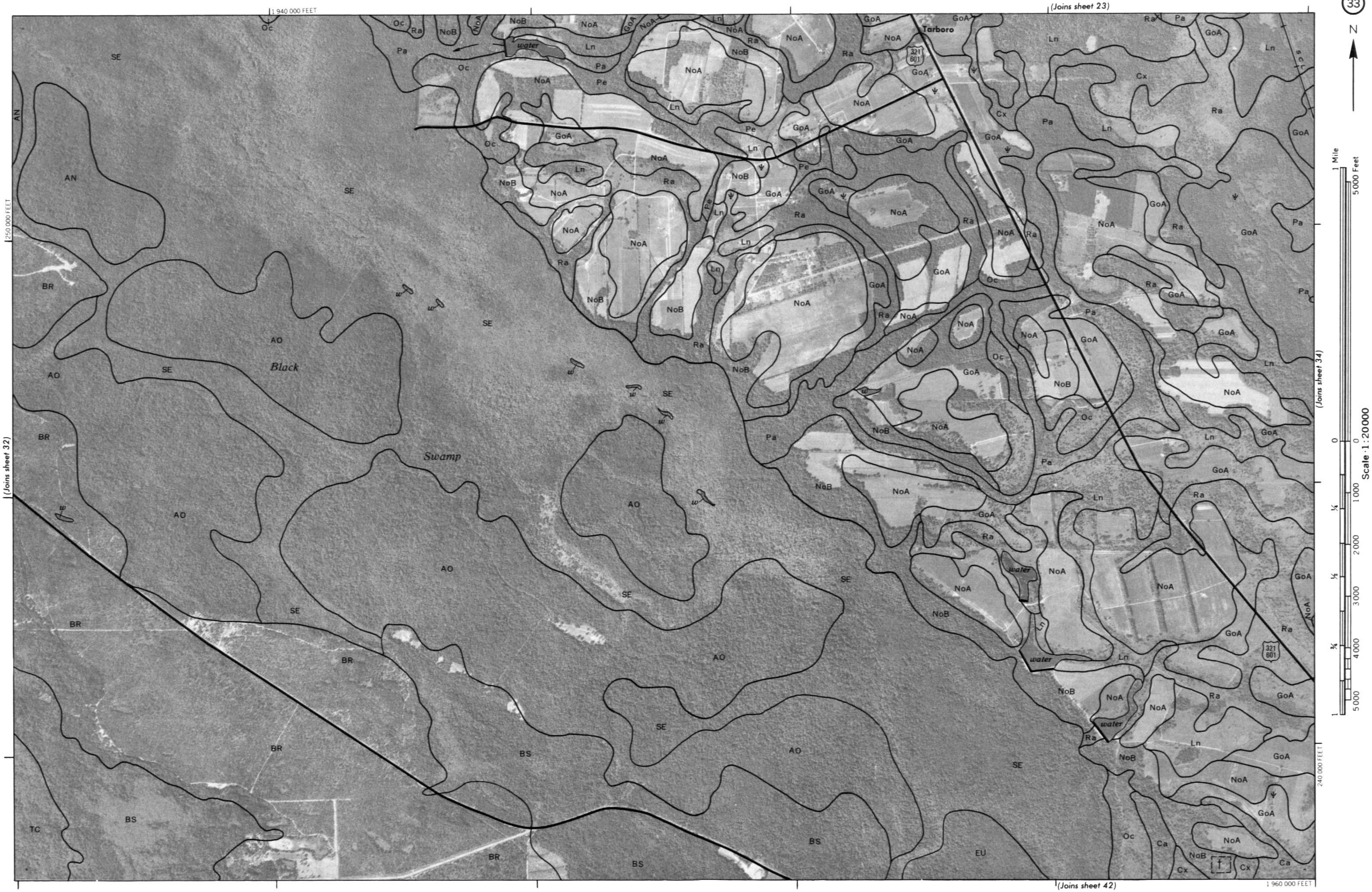

N
(Joins sheet 19)
(Joins sheet 27)
(Joins sheet 29)
(Joins sheet 38)
2 080 000 FEET
2 060 000 FEET
265 000 FEET
255 000 FEET
Scale 1:20000
1 Mile
5000 Feet
SCOTTS
NECK
Bull Point
Lobeco
Coosaw
Halls
Island
HOSPA
CREEK
HAULOVER
CREEK
WHALE
BRANCH
WHALE
BRANCH
SEABOARD
COAST
LINE
21

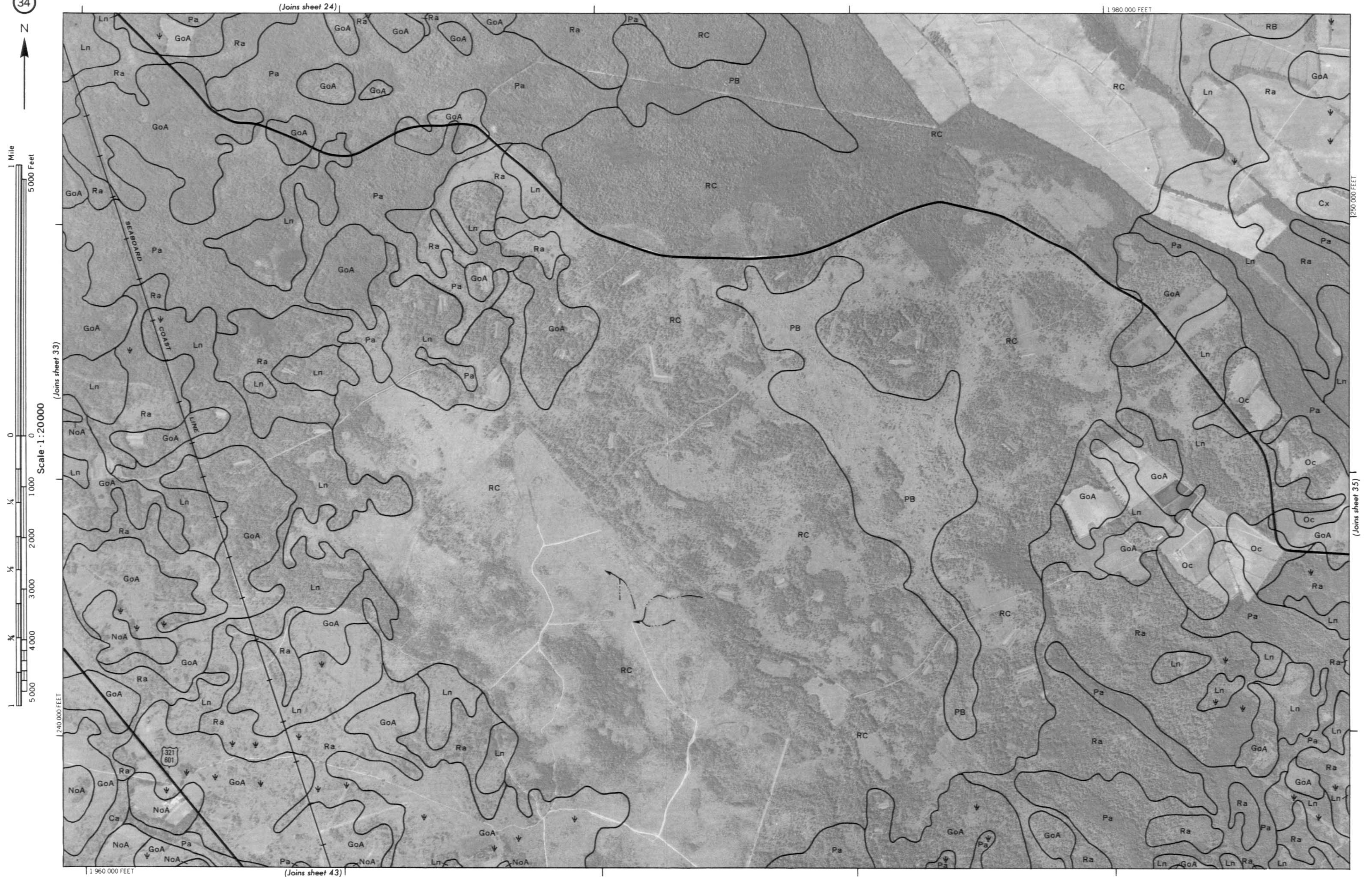

29
N
(Joins sheet 20)
(Joins sheet 28)
(Joins sheet 30)
(Joins sheet 39)
2 085 000 FEET
2 105 000 FEET
265 000 FEET
255 000 FEET
WIMBEE CREEK
SEABOARD COAST LINE
Dale
SOUTH WIMBEE CREEK
Halfmoon Island
CHISOLMS ISLAND
WHALE BRANCH
water
1 Mile
5000 Feet
Scale 1:20000

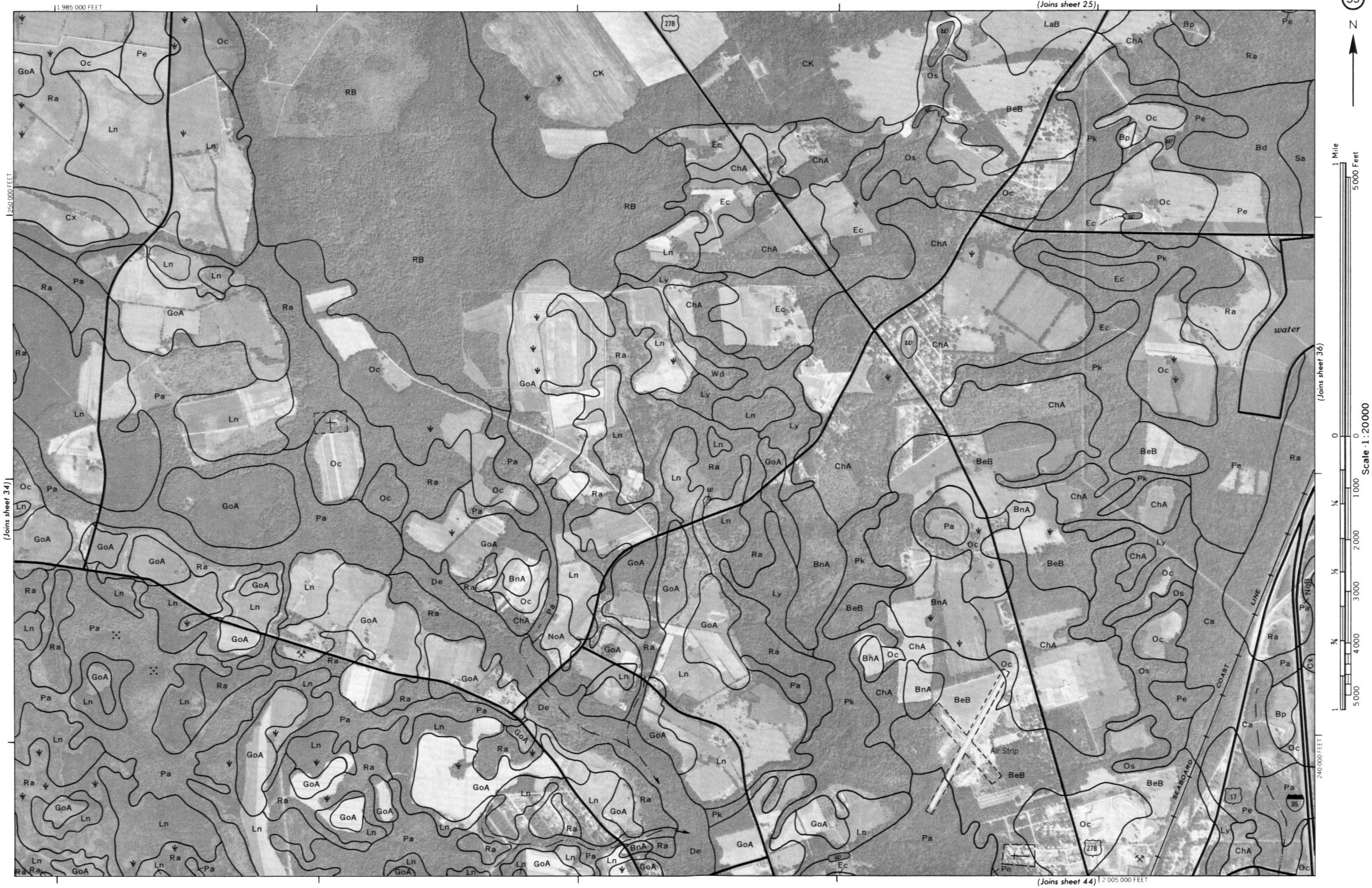

30
N
(Joins sheet 21)
(Joins sheet 29)
(Joins sheet 31)
(Joins sheet 40)
2 130 000 FEET
2 110 000 FEET
265 000 FEET
255 000 FEET
Scale 1:20000
1 Mile
5000 Feet
SCHOONER CHANNEL
WILLIMON CREEK
BULL CREEK
COMBAHEE RIVER
COLLETON COUNTY
WIMBEE CREEK
SOUTH WIMBEE CREEK
WILLIMAN ISLANDS
CHISOLMS ISLAND
CE
BK
Wn
Wa
NeA
Bd
Bb
Cs
UL
Sk
To
Po
De


31
N
2 135 000 FEET
265 000 FEET
(Joins sheet 30)
(Joins sheet 41)
2 155 000 FEET
255 000 FEET
COMBAHEE
RIVER
COLLETON
COUNTY
BK
Buzzard
Island
water
Wn
BULL
RIVER
2 158 000 FEET
235 000 FEET
230 000 FEET
2 163 000 FEET
(Joins sheet 50)
COOSAW
RIVER
ST
HELENA
SOUND
MORGAN
ISLAND
CE
Wn
MORGAN
water
BACK
CREEKS
MORGAN
RIVER
1 Mile
5000 Feet
Scale 1:20000


N
1 Mile
5000 Feet
0
0
Scale 1:20000
1000
¼
2000
½
3000
¾
4000
5000
1
(Joins sheet 22)
1 935 000 FEET
(Joins sheet 33)
(Joins inset, sheet 61)
1 915 000 FEET
250 000 FEET
240 000 FEET
(Joins sheet 3)
(Joins sheet 9)
315 000 FEET
305 000 FEET
2 015 000 FEET
2 010 000 FEET
SAVANNAH
RIVER
EFFINGHAM
COUNTY
GEORGIA
SEABOARD
COAST
LINE
Black
Swamp
COOSAWHATCHIE
HAMPTON
COUNTY
RIVER
TC
BR
SE
AN
AO
BS
w
Wn
Aa
Pa
BeB
LaB
Os
BnA
Mu
Bd
NeB
NeA
water
De
SE

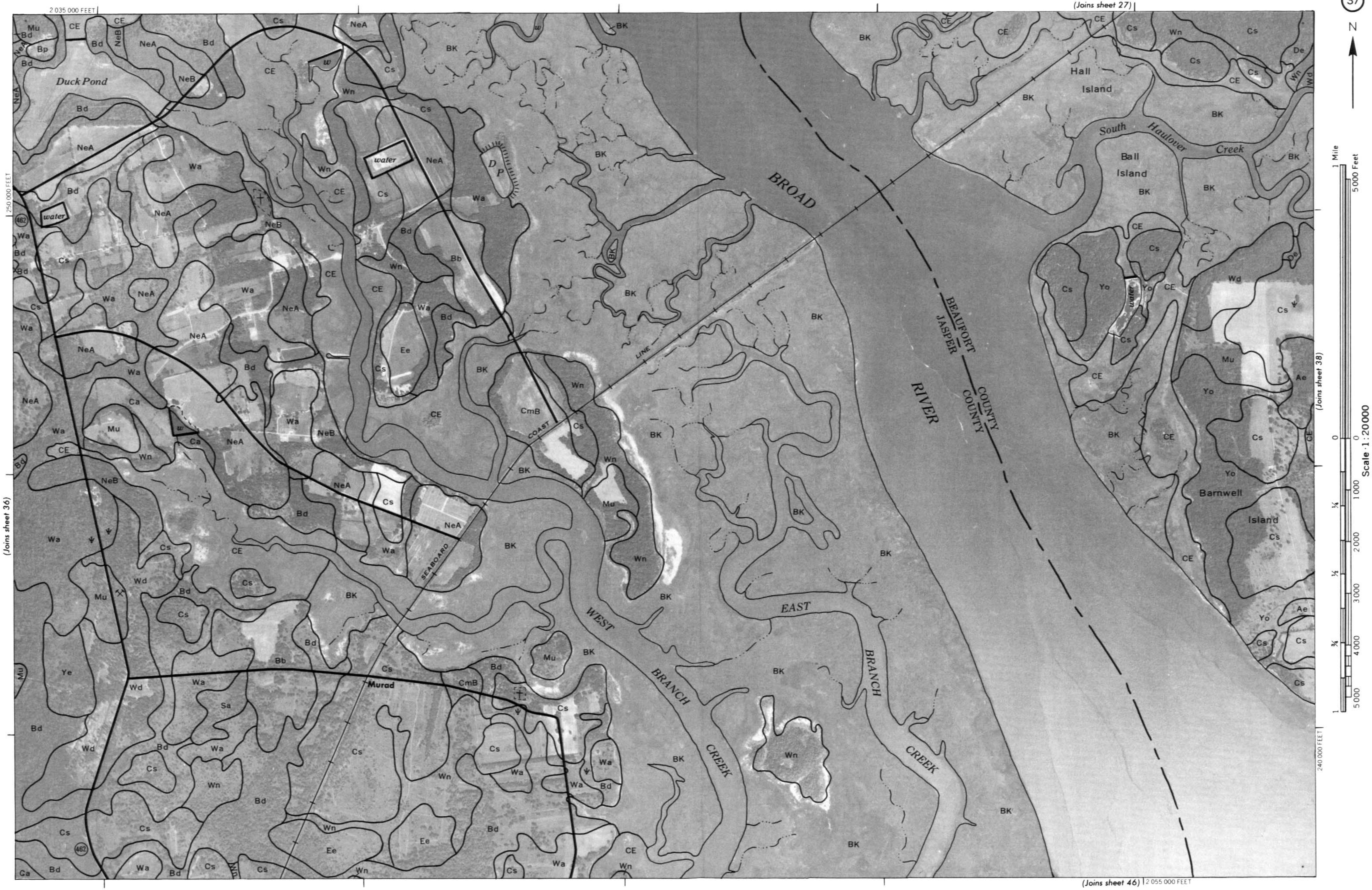

1 940 000 FEET
(Joins sheet 23)
250 000 FEET
(Joins sheet 32)
(Joins sheet 34)
240 000 FEET
(Joins sheet 42)
1 960 000 FEET
Tarboro
Black
Swamp
water
321
601
N
1 Mile
5000 Feet
0
¼
½
¾
1
1000
2000
3000
4000
5000
Scale 1:20000
SE
AN
AO
BR
BS
TC
EU
NoA
NoB
GoA
Ln
Ra
Pa
Pe
Oc
Cx
Ca


N
(Joins sheet 24)
1 980 000 FEET
250 000 FEET
(Joins sheet 35)
(Joins sheet 33)
SEABOARD
COAST
LINE
321
601
1 960 000 FEET
240 000 FEET
(Joins sheet 43)
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
¼
½
¾
1
RC
PB
Pa
Ra
Ln
GoA
RB
Cx
Oc
NoA
Ca


(Joins sheet 25)
(Joins sheet 34)
(Joins sheet 36)
(Joins sheet 44)
1 985 000 FEET
250 000 FEET
240 000 FEET
2 005 000 FEET
278
17
95
water
Air Strip
SEABOARD
COAST
LINE
N
1 Mile
5000 Feet
Scale 1:20000


N
(Joins sheet 26)
(Joins sheet 37)
(Joins sheet 45)
(Joins sheet 35)
2 030 000 FEET
250 000 FEET
240 000 FEET
2 010 000 FEET
Scale 1:20000
1 Mile
5000 Feet
SEABOARD
COAST
LINE
95
482
water

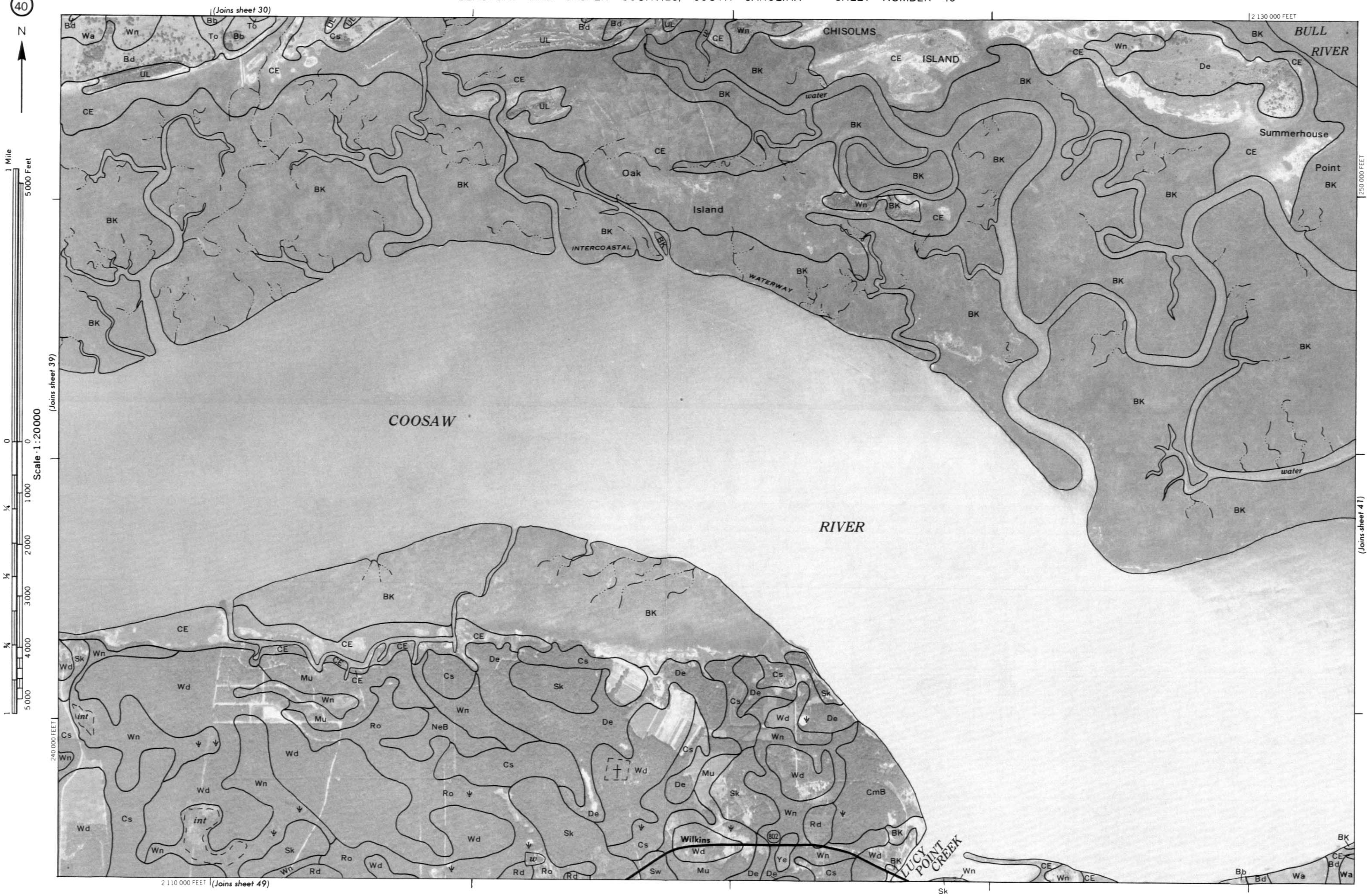
37

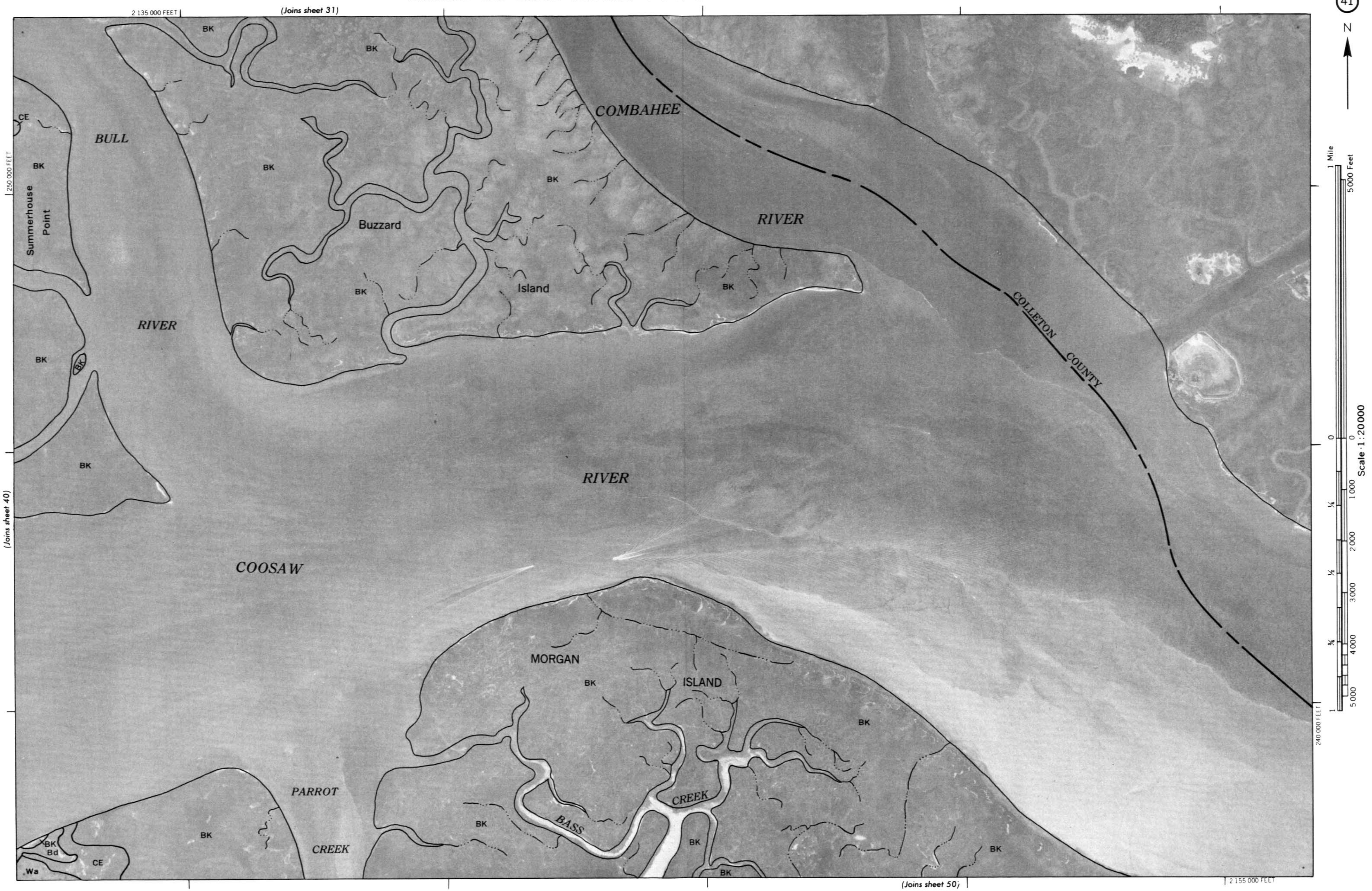


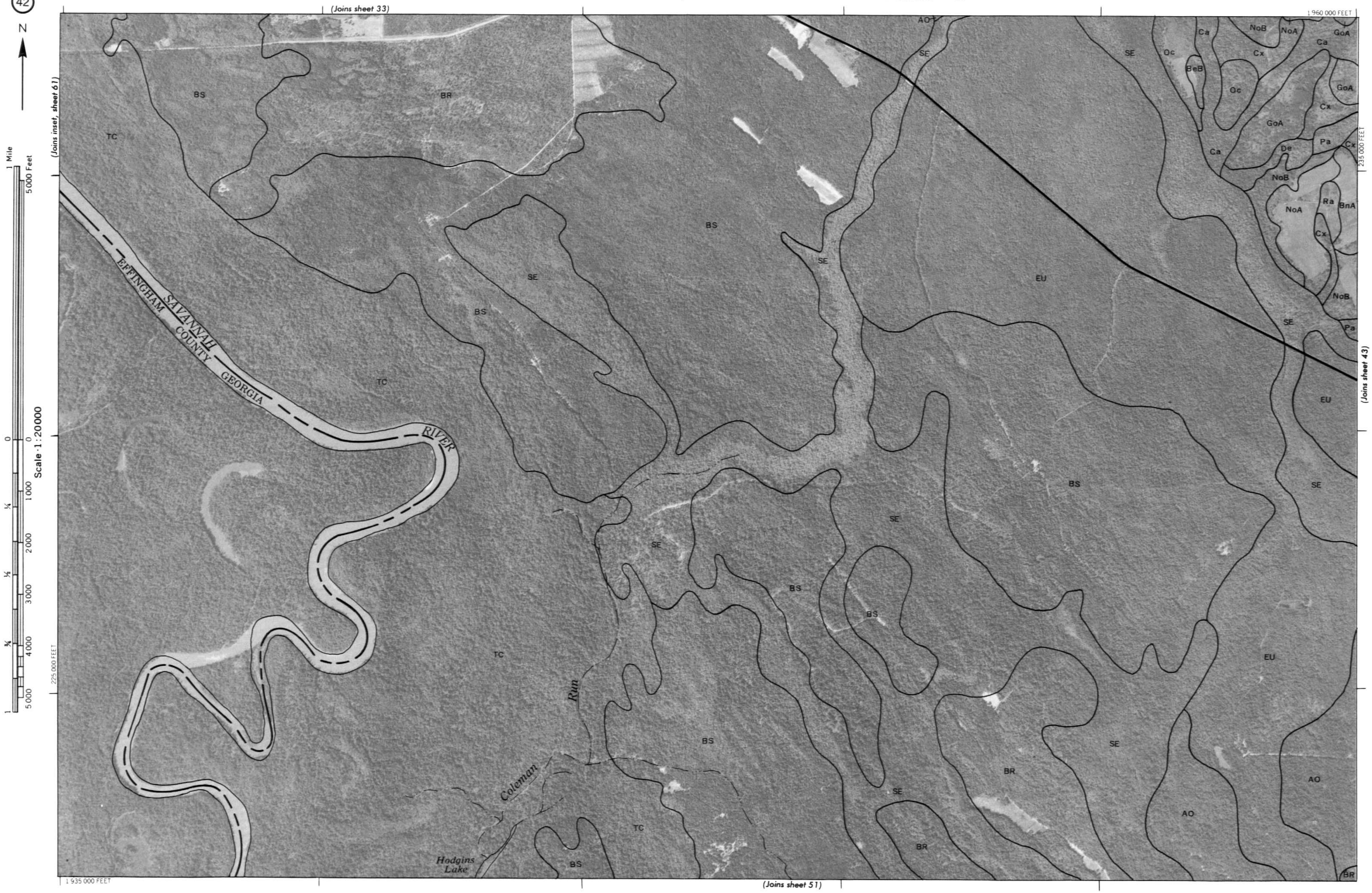
(Joins sheet 27)
(Joins sheet 36)
(Joins sheet 38)
(Joins sheet 46)
2 035 000 FEET
2 055 000 FEET
250 000 FEET
240 000 FEET
N
Duck Pond
Hall Island
Ball Island
Barnwell Island
South Haulover Creek
BROAD RIVER
BEAUFORT COUNTY
JASPER COUNTY
WEST BRANCH CREEK
EAST BRANCH CREEK
SEABOARD COAST LINE
Murad
water
462
Scale 1:20000
1 Mile
5000 Feet
0
¼
½
¾
1
1000
2000
3000
4000
5000

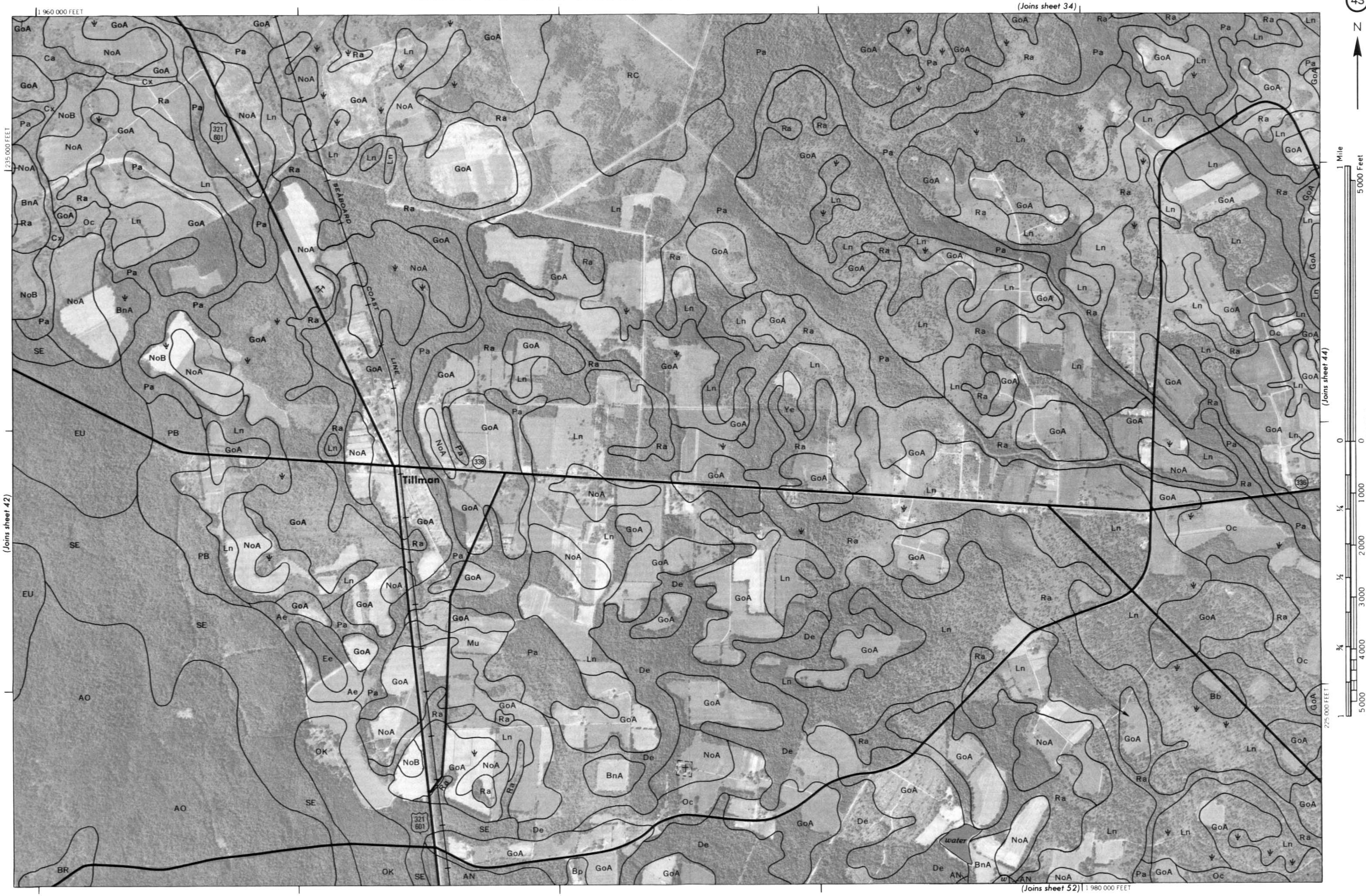

(Joins sheet 28)
(Joins sheet 37)
(Joins sheet 39)
(Joins sheet 47)
N
1 Mile
5000 Feet
Scale 1:20000
2 080 000 FEET
2 060 000 FEET
250 000 FEET
240 000 FEET
Halls Island
HAULOVER CREEK
South Haulover Creek
Ball Island
Little Barnwell Island
Barnwell Island
Cotton Island
WHALE BRANCH
BROAD RIVER
McCalleys Creek
SEABOARD COAST LINE
U S NAVAL RESERVATION
MARINE CORPS AIR STATION
water

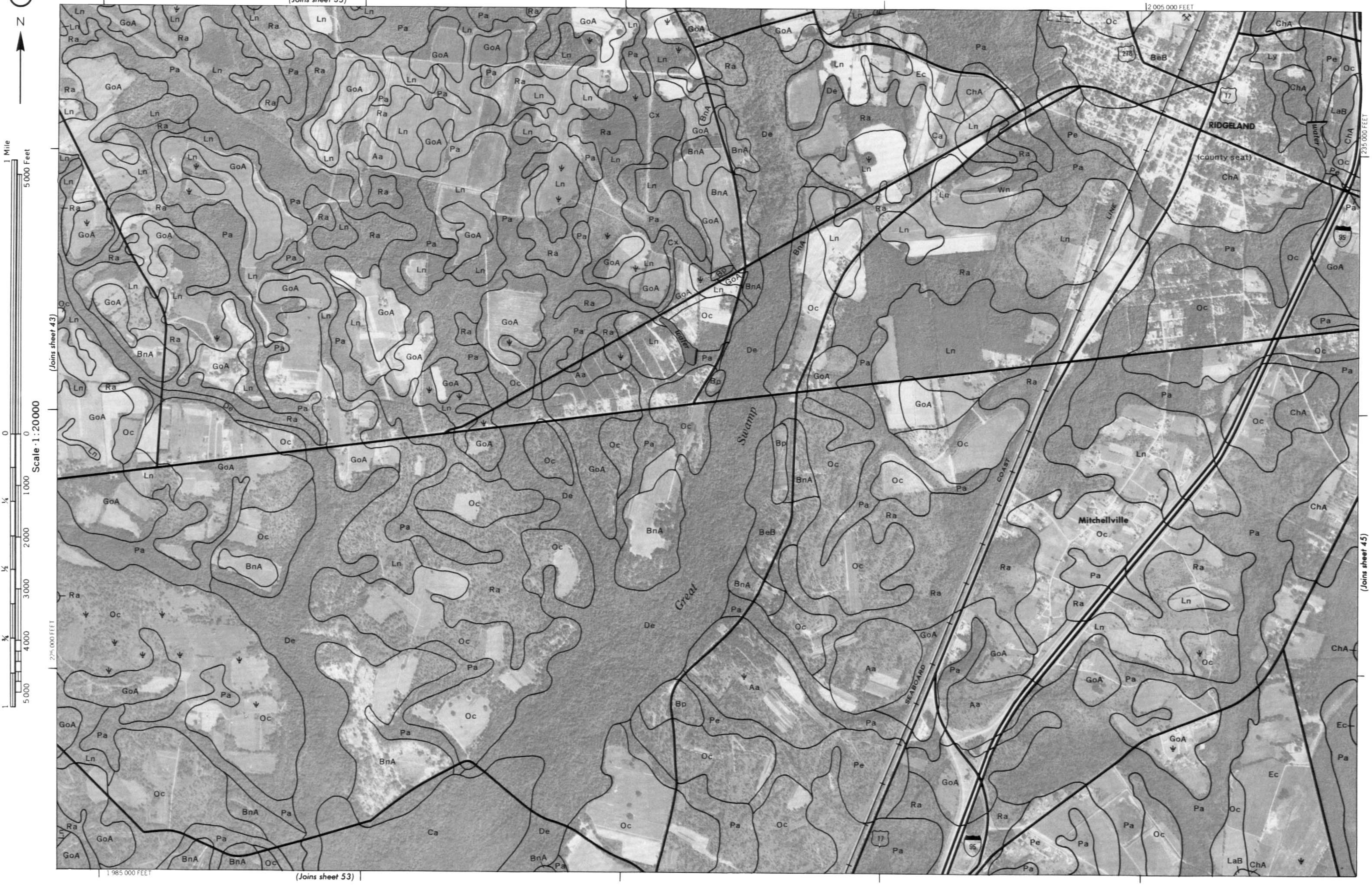

2 085 000 FEET
(Joins sheet 29)
WHALE
BRANCH
COOSAW
RIVER
McCalleys
Creek
Stuart
Point
Jack
Island
Mulligan
Creek
BRICKYARD
CREEK
Broomfield
Creek
US
NAVAL
RESERVATION
MARINE
CORPS
AIR
STATION
Air
Strip
water
250 000 FEET
(Joins sheet 38)
(Joins sheet 40)
240 000 FEET
(Joins sheet 48)
2 105 000 FEET
N
1 Mile
5000 Feet
Scale 1:20000
0
¼
½
¾
1
0
1000
2000
3000
4000
5000

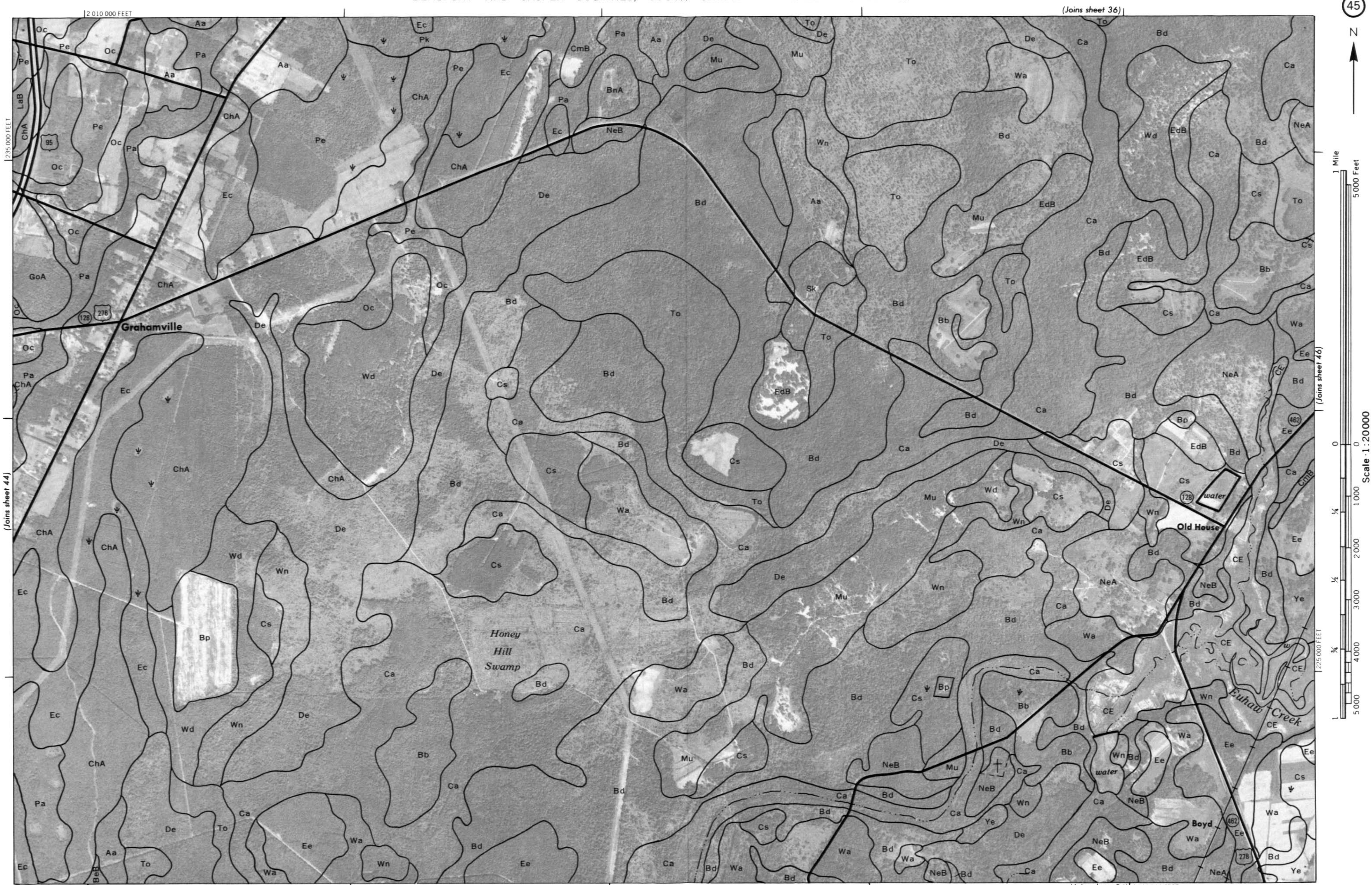

(Joins sheet 30)
(Joins sheet 39)
(Joins sheet 41)
(Joins sheet 49)
N
Scale 1:20000
1 Mile
5000 Feet
2 130 000 FEET
2 110 000 FEET
250 000 FEET
240 000 FEET
CHISOLMS ISLAND
BULL RIVER
Summerhouse Point
Oak Island
INTERCOASTAL WATERWAY
COOSAW RIVER
water
Wilkins
802
LUCY POINT CREEK

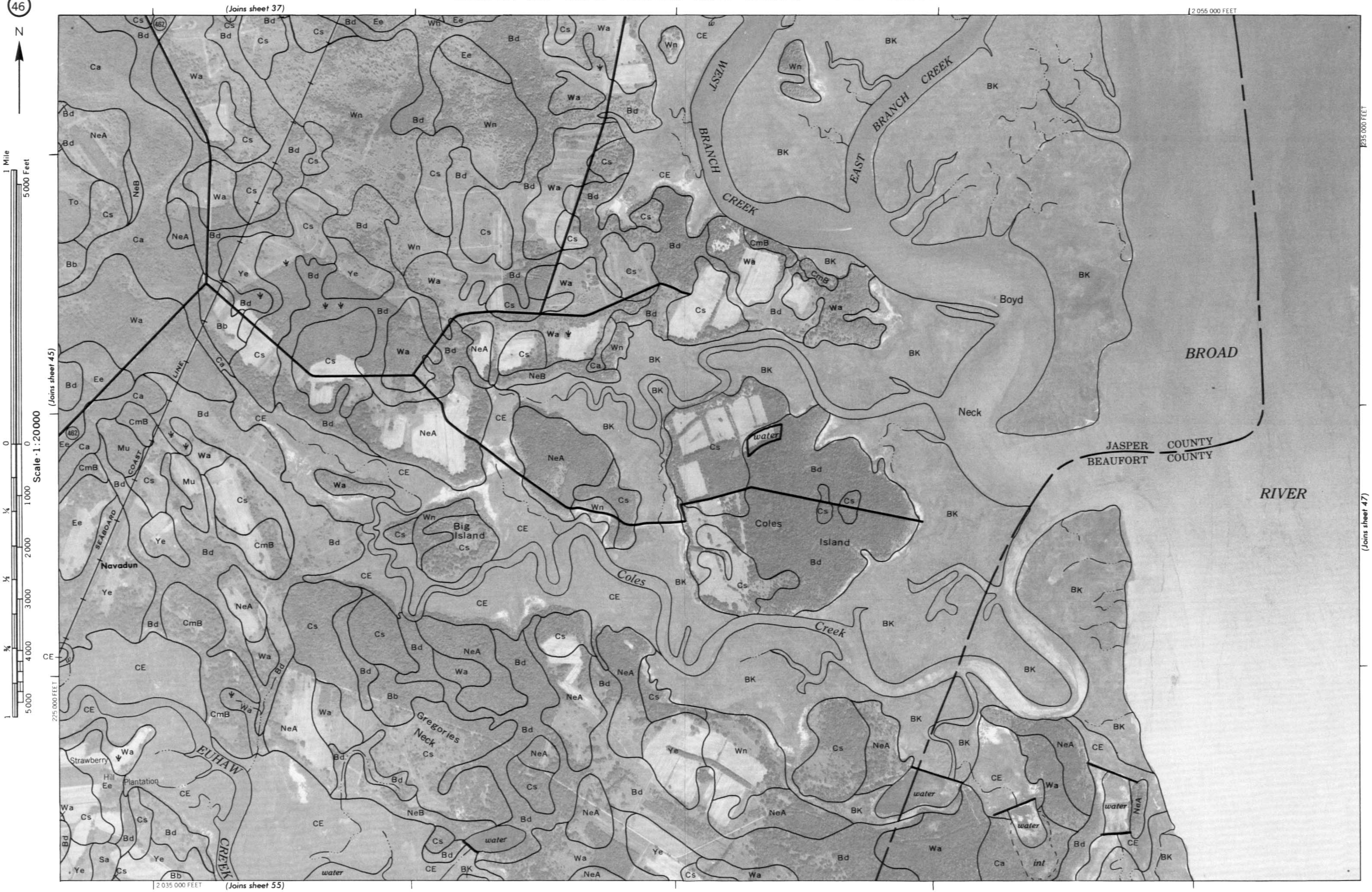

41
N
(Joins sheet 31)
2 135 000 FEET
250 000 FEET
(Joins sheet 40)
(Joins sheet 50)
2 155 000 FEET
240 000 FEET
COMBAHEE
RIVER
COLLETON
COUNTY
BULL
RIVER
Summerhouse Point
Buzzard
Island
COOSAW
RIVER
MORGAN
ISLAND
PARROT
CREEK
BASS
CREEK
BK
CE
Bd
Wa
1 Mile
5000 Feet
Scale 1:20000
0
¼
½
¾
1
0
1000
2000
3000
4000
5000


(Joins sheet 33)
(Joins inset, sheet 61)
(Joins sheet 43)
(Joins sheet 51)
N
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
¼
½
¾
1
1 960 000 FEET
235 000 FEET
225 000 FEET
1 935 000 FEET
SAVANNAH
RIVER
EFFINGHAM
COUNTY
GEORGIA
Coleman
Run
Hodgins
Lake
TC
BS
BR
SE
EU
AO
Ca
NoB
NoA
GoA
Oc
Cx
BeB
De
Pa
Ra
BnA

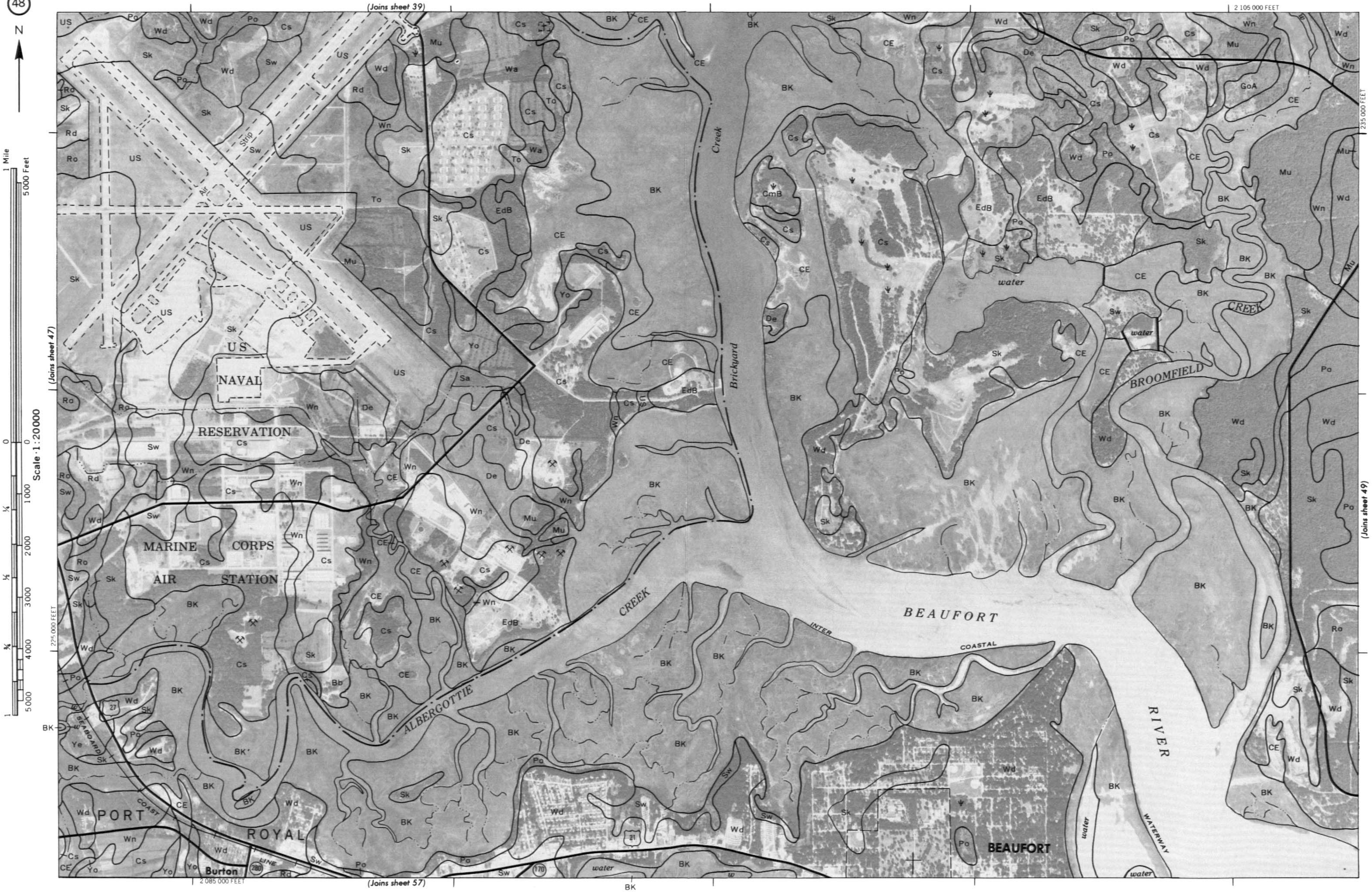

(Joins sheet 34)
(Joins sheet 42)
(Joins sheet 44)
(Joins sheet 52)
1 960 000 FEET
1 980 000 FEET
235 000 FEET
225 000 FEET
N
Tillman
SEABOARD
COAST
LINE
321
601
336
water
Scale 1:20000
1 Mile
5000 Feet
0
¼
½
¾
1
0
1000
2000
3000
4000
5000
GoA
NoA
NoB
Ca
Cx
Pa
Ra
Ln
RC
BnA
Oc
SE
EU
PB
AO
OK
BR
Ae
Ee
Mu
De
Ye
Bb
Bp
AN

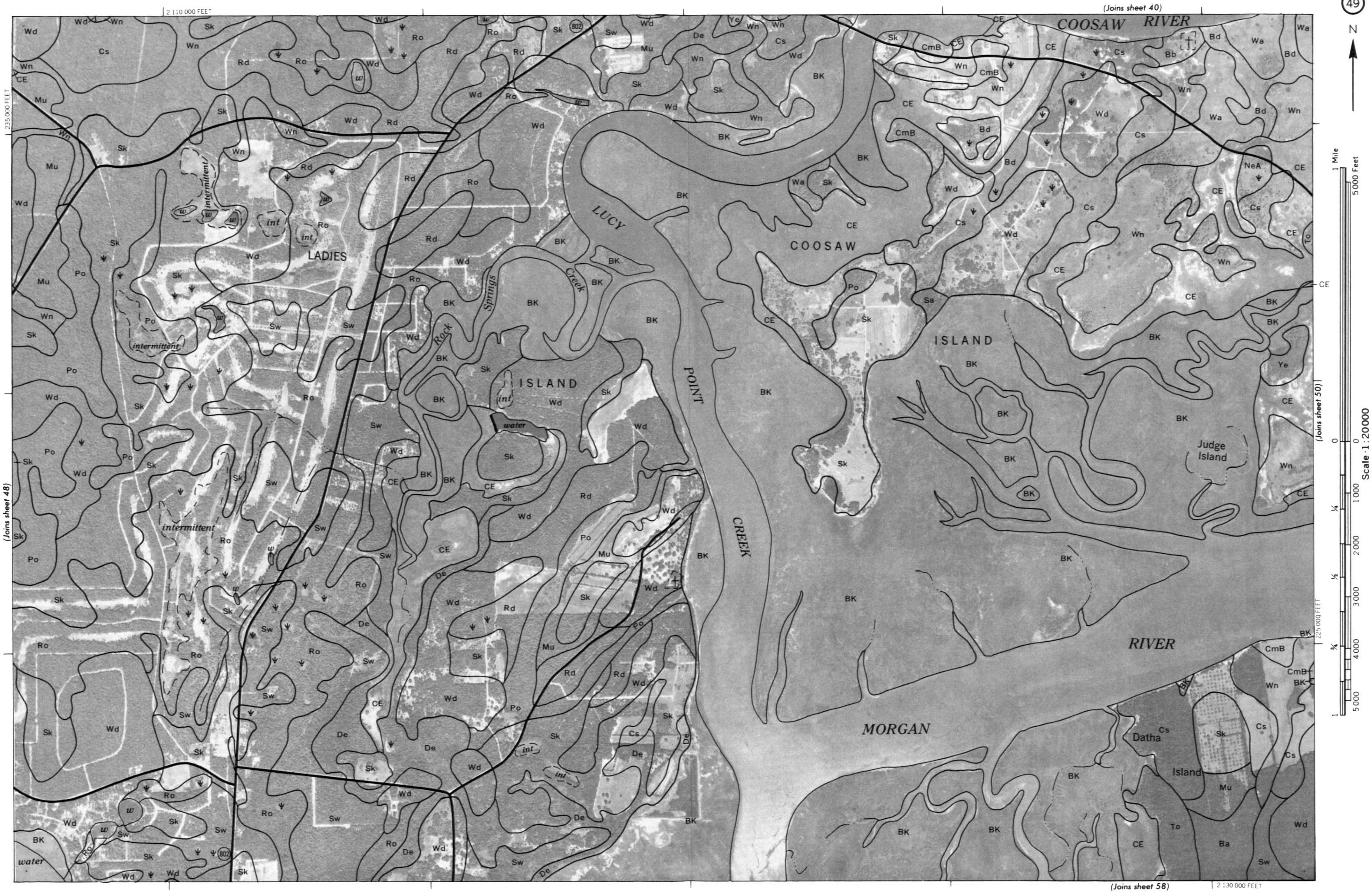

N
1 Mile
5 000 Feet
0
0
Scale 1:20000
1000
2000
3000
4000
5000
(Joins sheet 35)
(Joins sheet 43)
(Joins sheet 45)
(Joins sheet 53)
2 005 000 FEET
235 000 FEET
225 000 FEET
1 985 000 FEET
RIDGELAND
(county seat)
Mitchellville
Great Swamp
SEABOARD COAST LINE
water
278
17
95


45
N
2 010 000 FEET
235 000 FEET
(Joins sheet 36)
(Joins sheet 44)
(Joins sheet 46)
(Joins sheet 54)
2 030 000 FEET
225 000 FEET
Grahamville
Honey
Hill
Swamp
Old House
Boyd
Euhaw Creek
water
1 Mile
5000 Feet
Scale 1:20000
0
¼
½
¾
1
1000
2000
3000
4000
5000

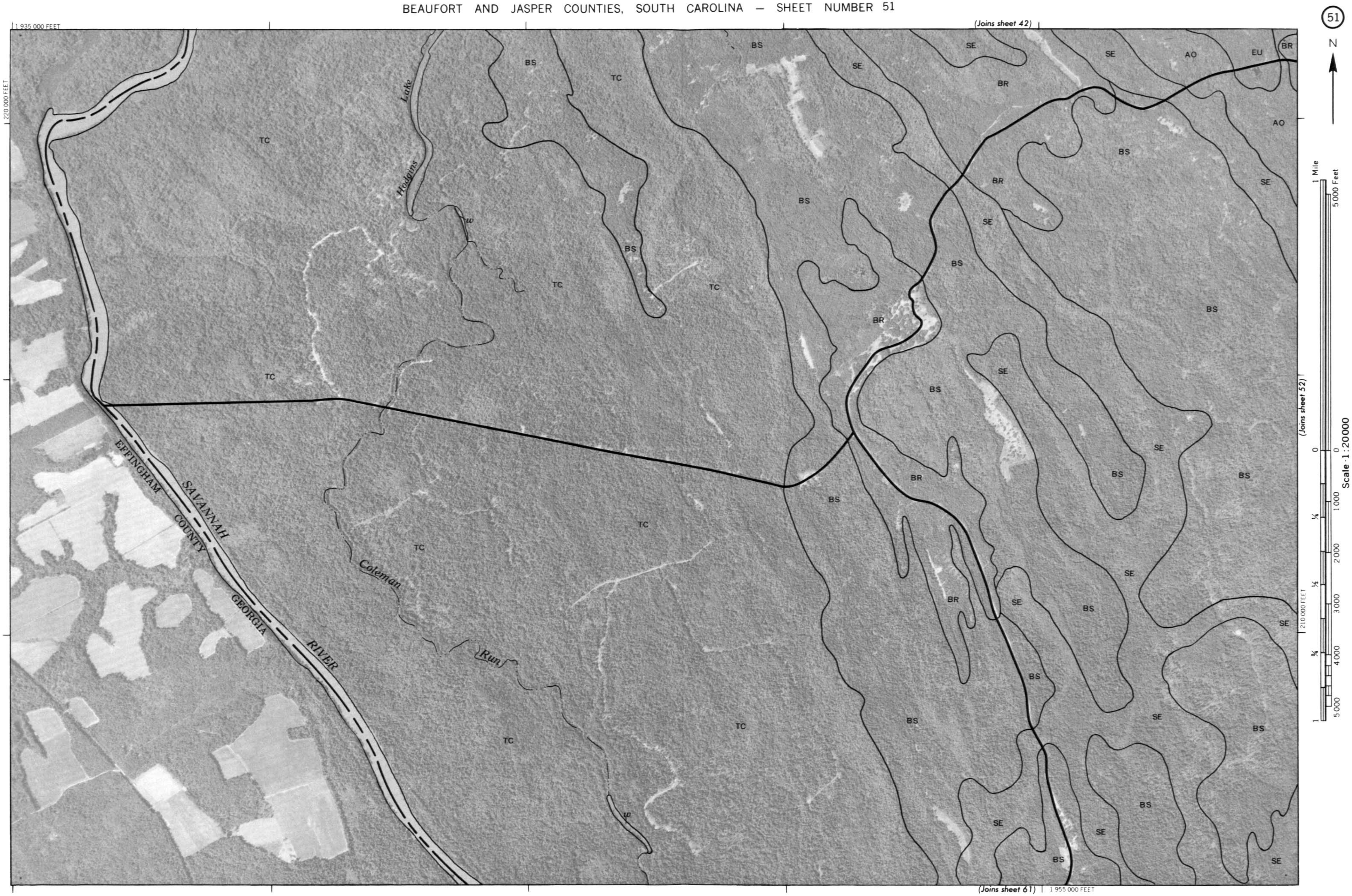

46
N
(Joins sheet 37)
(Joins sheet 45)
(Joins sheet 47)
(Joins sheet 55)
2 055 000 FEET
235 000 FEET
225 000 FEET
2 035 000 FEET
1 Mile
5 000 Feet
Scale 1:20000
WEST BRANCH CREEK
EAST BRANCH CREEK
Boyd Neck
BROAD RIVER
JASPER COUNTY
BEAUFORT COUNTY
Coles Island
Big Island
Coles Creek
Gregories Neck
Navadun
SEABOARD COAST LINE
Strawberry Hill Plantation
EUHAW CREEK
water
int

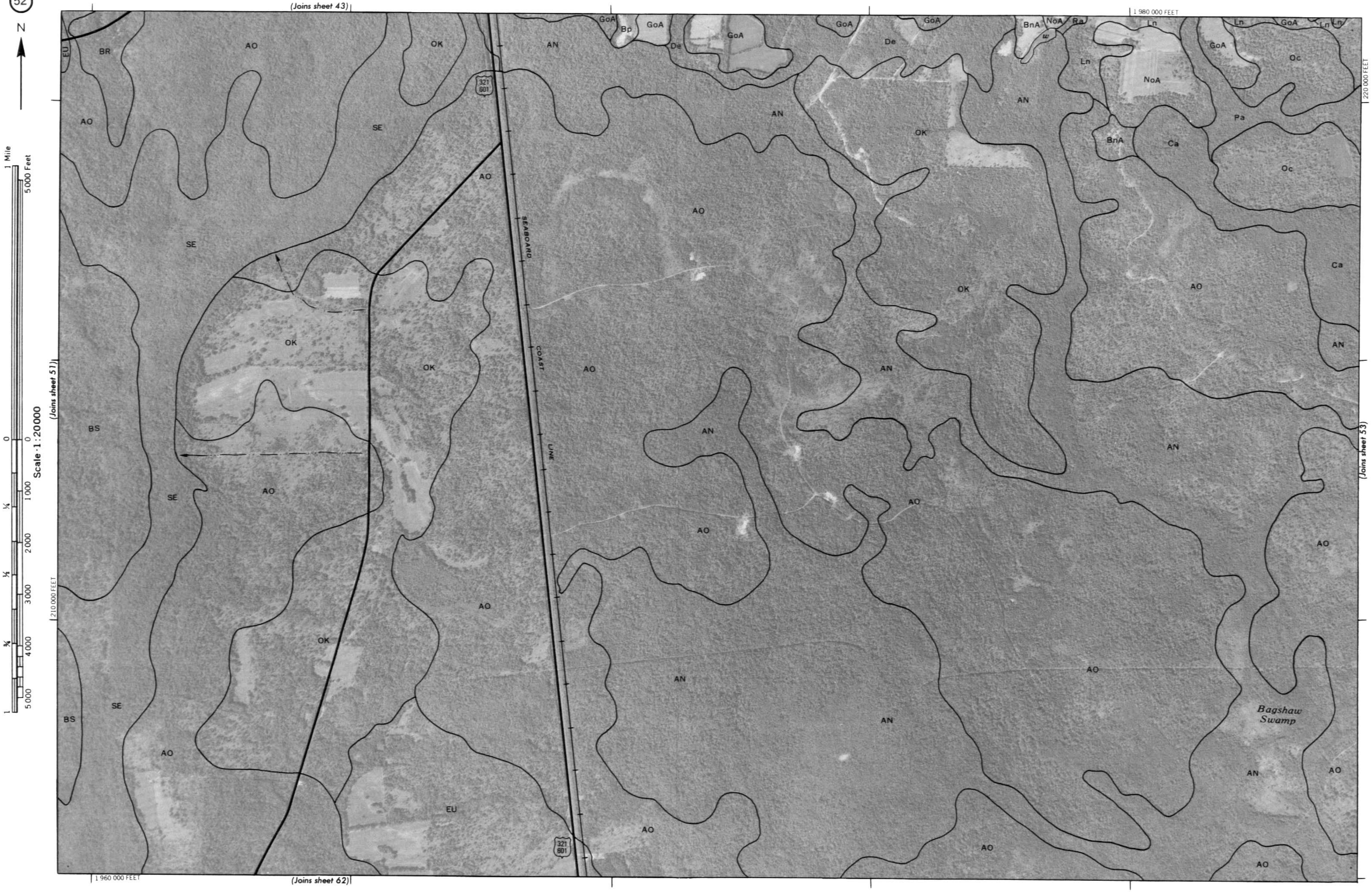

2 060 000 FEET
(Joins sheet 38)
235 000 FEET
Cotton
Island
WHALE
BRANCH
BROAD
RIVER
LAUREL
BAY
NAVAL
HOUSING
AREA
PORT
ROYAL
LAUREL
BAY
ISLAND
intermittent
intermittent
SEABOARD
COAST
LINE
U S NAVAL
RESERVATION
MARINE
CORPS
AIR STATION
Air Strip
Air Strip
Air Strip
Salt Creek
water
(Joins sheet 46)
(Joins sheet 48)
(Joins sheet 56)
2 080 000 FEET
225 000 FEET
N
1 Mile
5000 Feet
Scale 1:20000

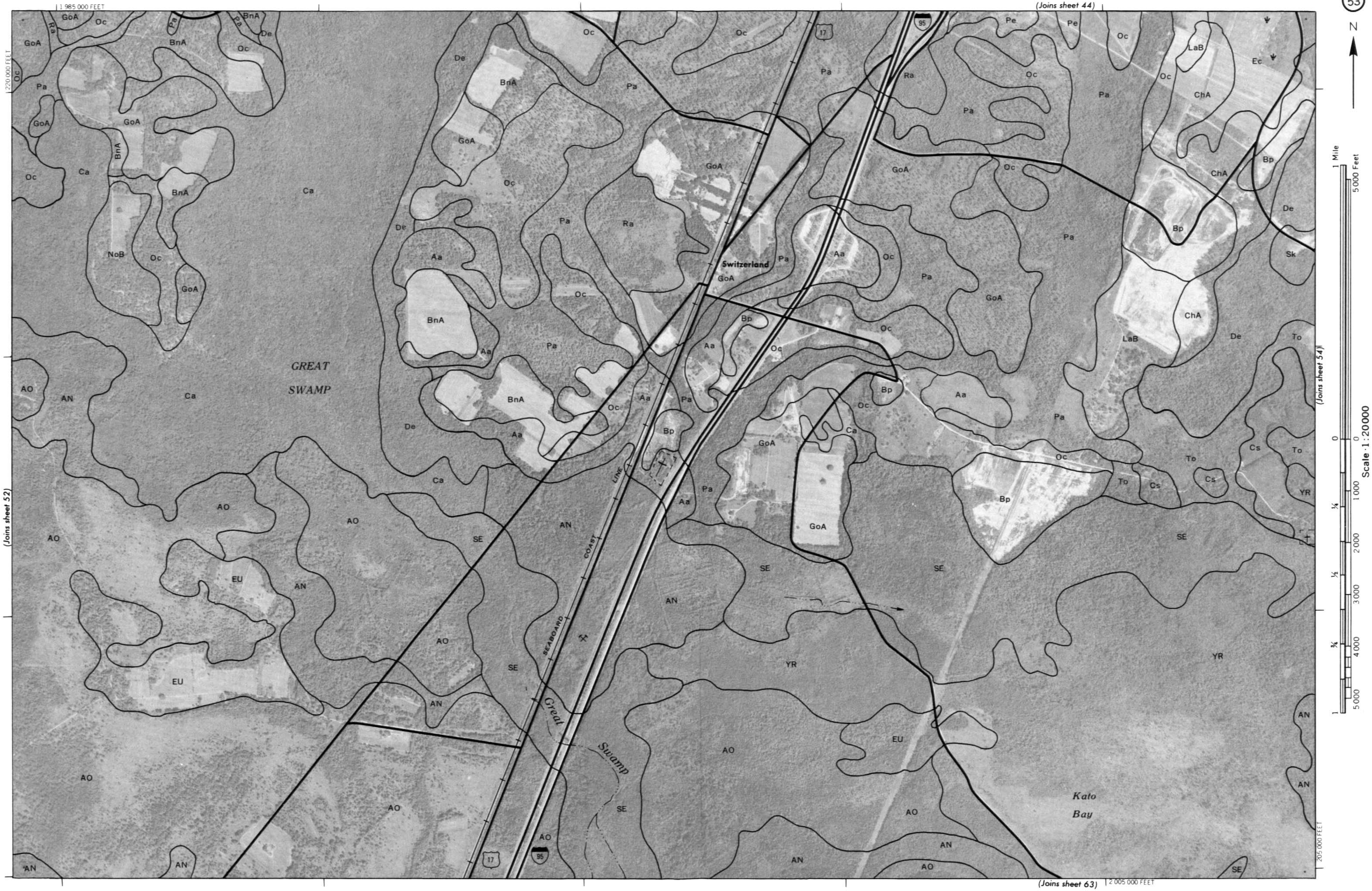

N
(Joins sheet 39)
(Joins sheet 47)
(Joins sheet 49)
(Joins sheet 57)
2 105 000 FEET
235 000 FEET
225 000 FEET
2 085 000 FEET
1 Mile
5000 Feet
Scale 1:20000
US NAVAL RESERVATION
MARINE CORPS AIR STATION
Air Strip
Brickyard Creek
ALBERGOTTIE CREEK
BROOMFIELD CREEK
BEAUFORT RIVER
INTER COASTAL WATERWAY
PORT ROYAL
BEAUFORT
Burton
SEABOARD COAST LINE
water
27
21
170
280
US
Sk
Wd
Po
Cs
Sw
Rd
Ro
To
Mu
Wa
Wn
CE
BK
EdB
Yo
De
Sa
CmB
Bb
Ye
Wn
GoA

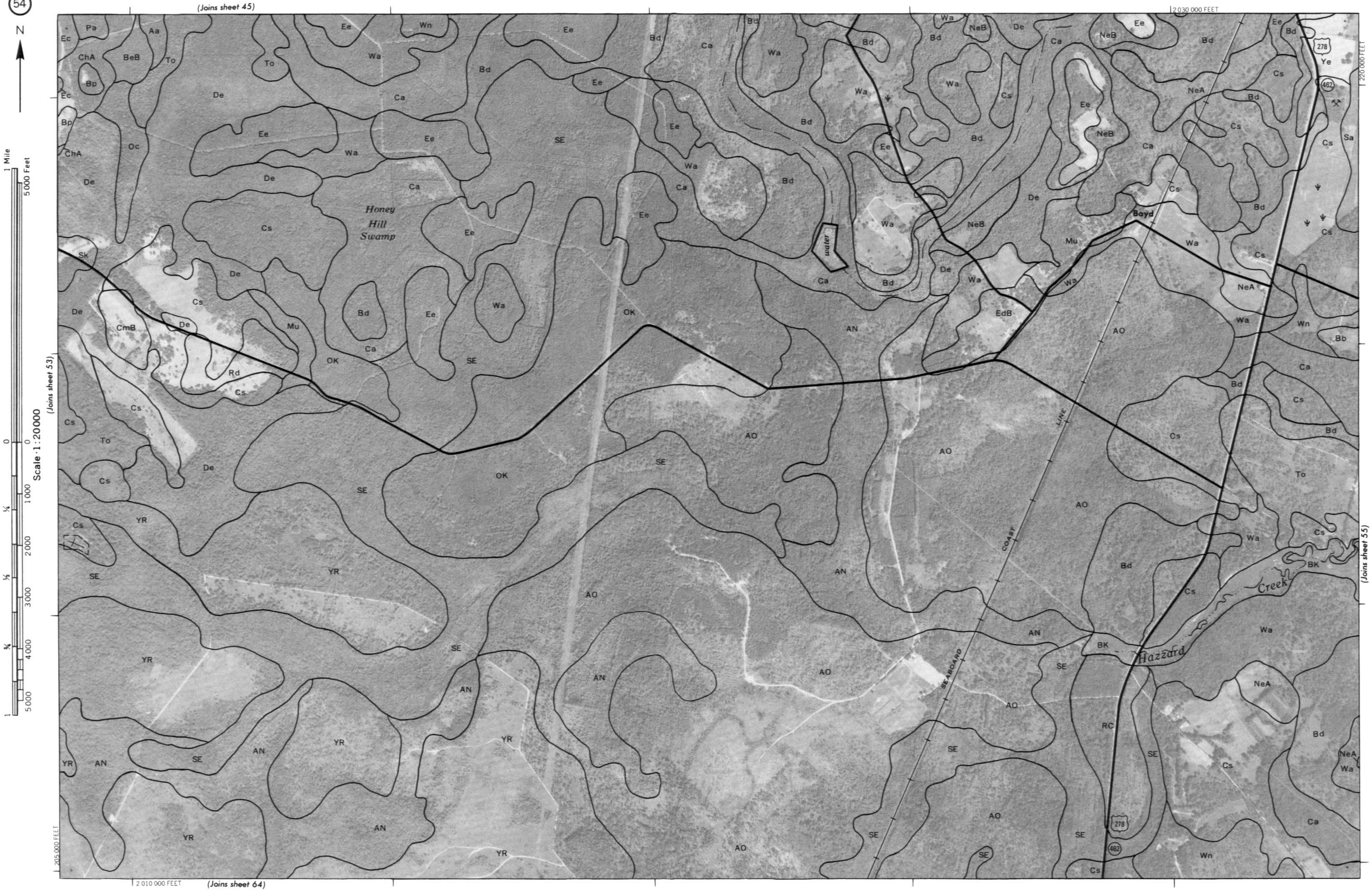

49
N
(Joins sheet 40)
(Joins sheet 48)
(Joins sheet 50)
(Joins sheet 58)
2 110 000 FEET
2 130 000 FEET
235 000 FEET
225 000 FEET
COOSAW RIVER
LADIES
ISLAND
LUCY POINT CREEK
Rock Springs Creek
COOSAW
ISLAND
Judge Island
RIVER
MORGAN
Datha Island
intermittent
water
1 Mile
5000 Feet
Scale 1:20000

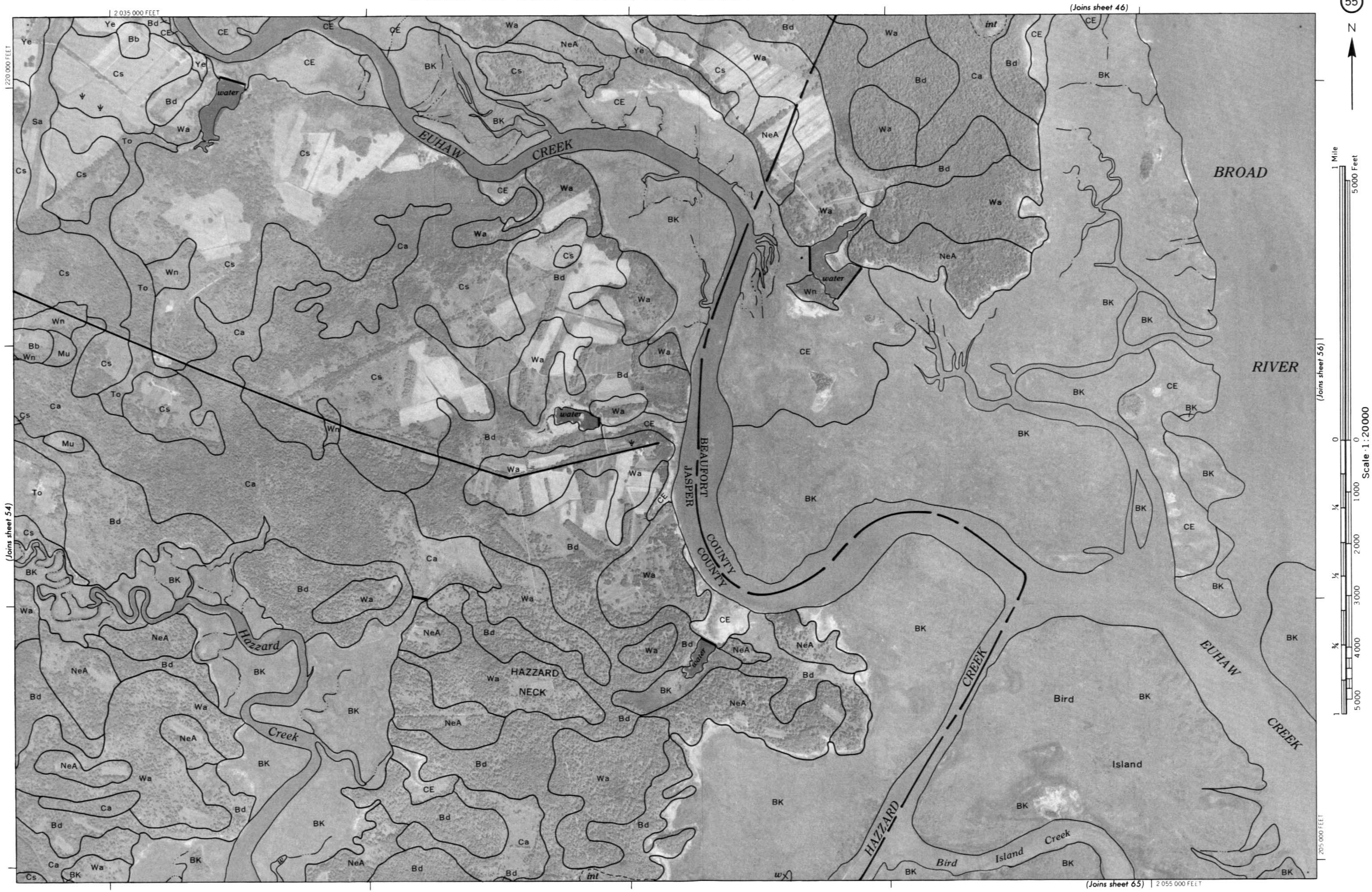

N
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
(Joins sheet 41)
(Joins sheet 49)
(Joins sheet 59)
(Joins inset, sheet 31)
(Joins inset, sheet 60)
2 155 000 FEET
235 000 FEET
225 000 FEET
2 135 000 FEET
COMBAHEE RIVER
PARROT CREEK
BASS CREEK
MORGAN ISLAND
BACK CREEKS
MORGAN CREEK
MORGAN ISLAND
Judge Island
MORGAN
RIVER
JENKINS CREEK
Datha Island
EDDINGS POINT CREEK
Pine Island
Pine Landing
VILLAGE CREEK
BK
CE
Bd
Wa
Wn
To
Cs
Ye
Mu
CmB
Bb
Wd
De
Sk
Sw
int


51
N
1 935 000 FEET
220 000 FEET
(Joins sheet 42)
(Joins sheet 52)
(Joins sheet 61)
1 955 000 FEET
210 000 FEET
TC
BS
SE
BR
AO
EU
w
Lake
Hodgins
Coleman
Run
EFFINGHAM
COUNTY
GEORGIA
SAVANNAH
RIVER
1 Mile
5000 Feet
0
¼
½
¾
1
1000
2000
3000
4000
5000
Scale 1:20000

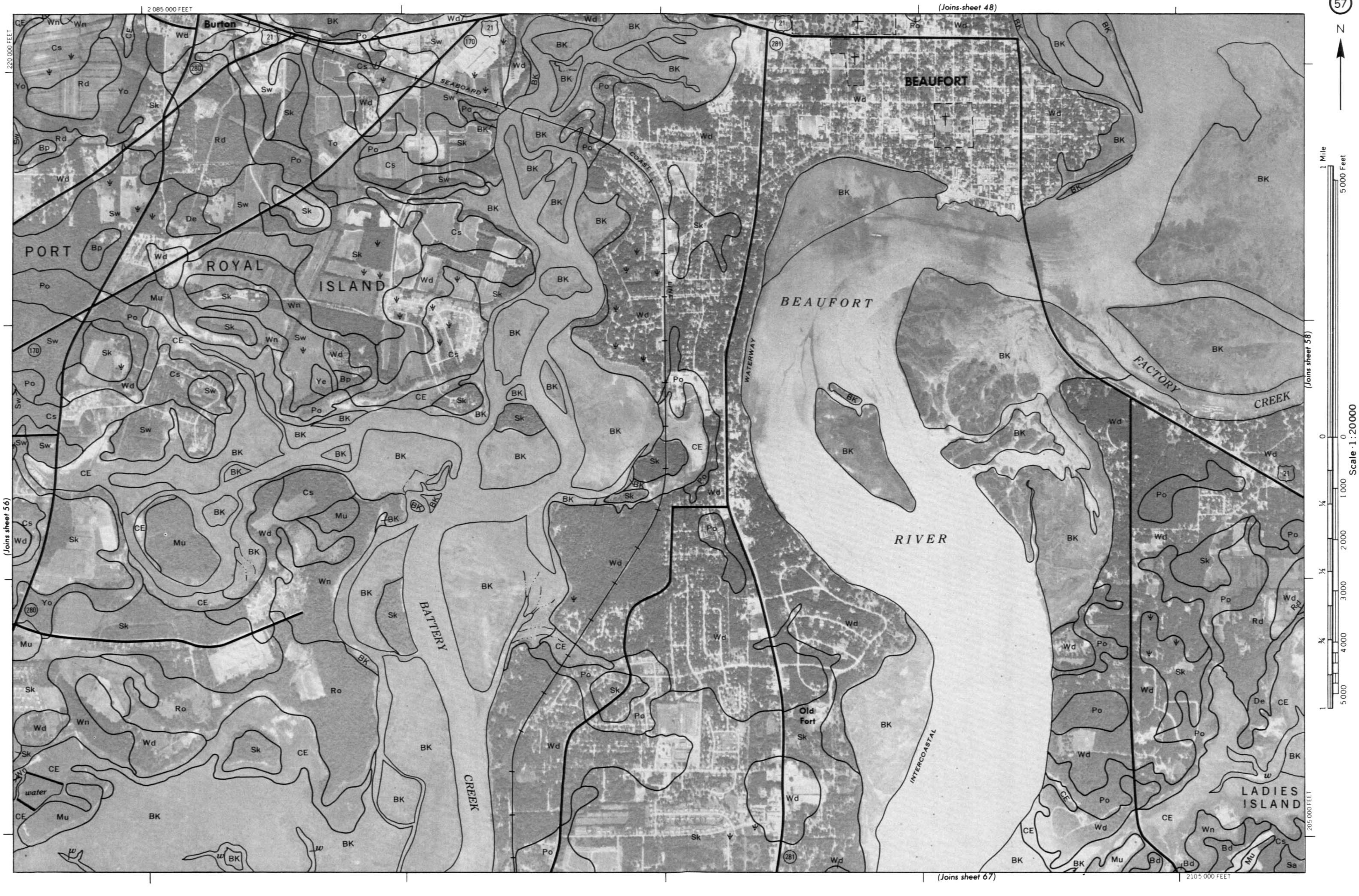

N
1 Mile
5000 Feet
Scale 1:20 000
0
¼
½
¾
1
0
1000
2000
3000
4000
5000
(Joins sheet 43)
(Joins sheet 51)
(Joins sheet 53)
(Joins sheet 62)
1 980 000 FEET
220 000 FEET
210 000 FEET
1 960 000 FEET
SEABOARD COAST LINE
321
801
Bagshaw Swamp
EU
BR
AO
OK
AN
GoA
Bp
De
BnA
NoA
Ra
w
Ln
Oc
Pa
Ca
SE
BS


(Joins sheet 44)
(Joins sheet 54)
(Joins sheet 52)
(Joins sheet 63)
1 985 000 FEET
220 000 FEET
2 005 000 FEET
205 000 FEET
GREAT
SWAMP
Switzerland
Great
Swamp
Kato
Bay
SEABOARD
COAST
LINE
17
95
N
1 Mile
5000 Feet
Scale 1:20000
GoA
Oc
Ra
Pa
BnA
De
Ca
NoB
Aa
AO
AN
EU
SE
Bp
YR
Pe
Ec
LaB
ChA
Sk
To
Cs

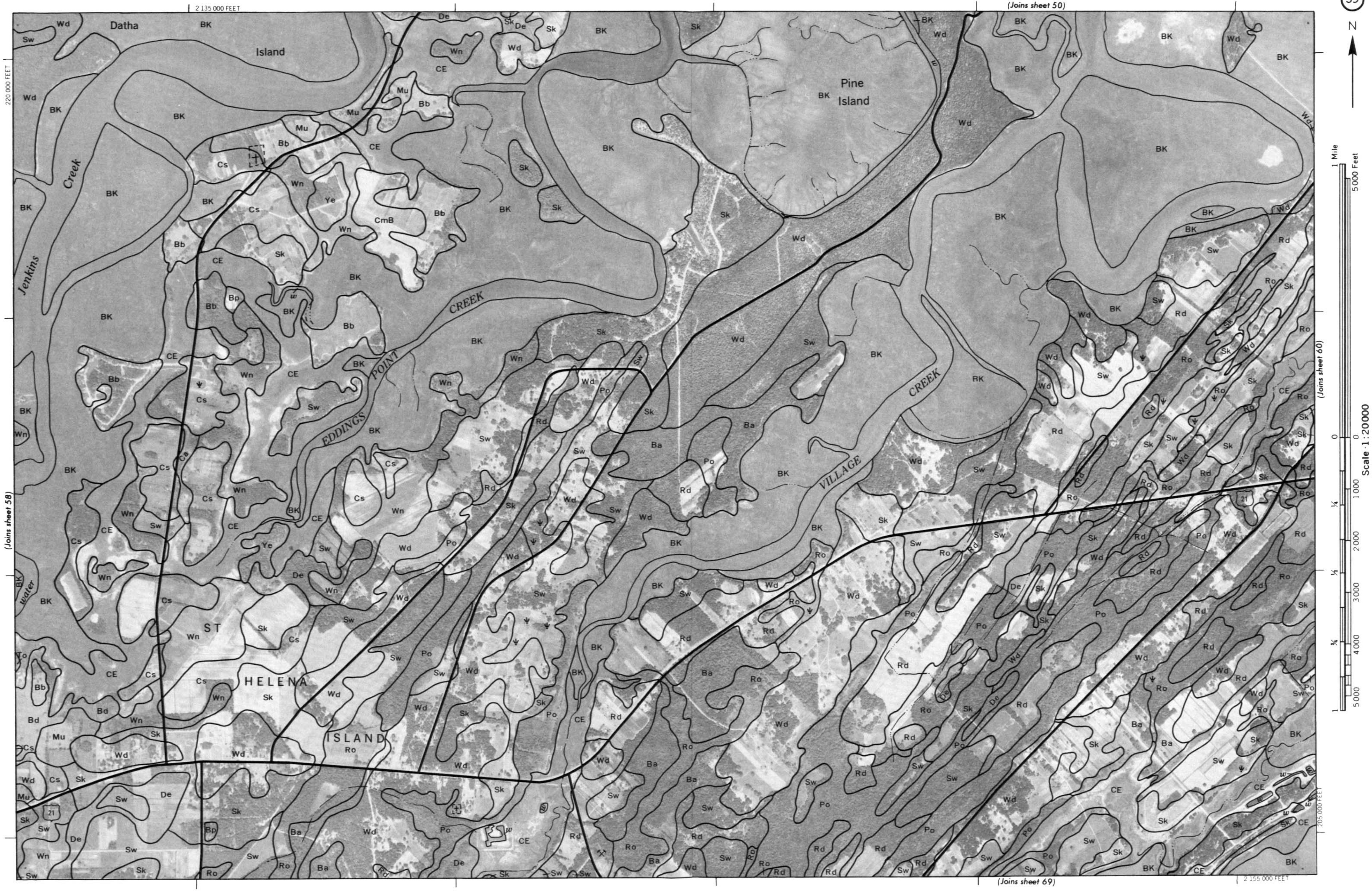

(Joins sheet 45)
(Joins sheet 53)
(Joins sheet 55)
(Joins sheet 64)
N
1 Mile
5000 Feet
Scale 1:20000
2 030 000 FEET
220 000 FEET
2 010 000 FEET
205 000 FEET
Honey Hill Swamp
water
Boyd
Hazzard Creek
SEABOARD COAST LINE
278
462

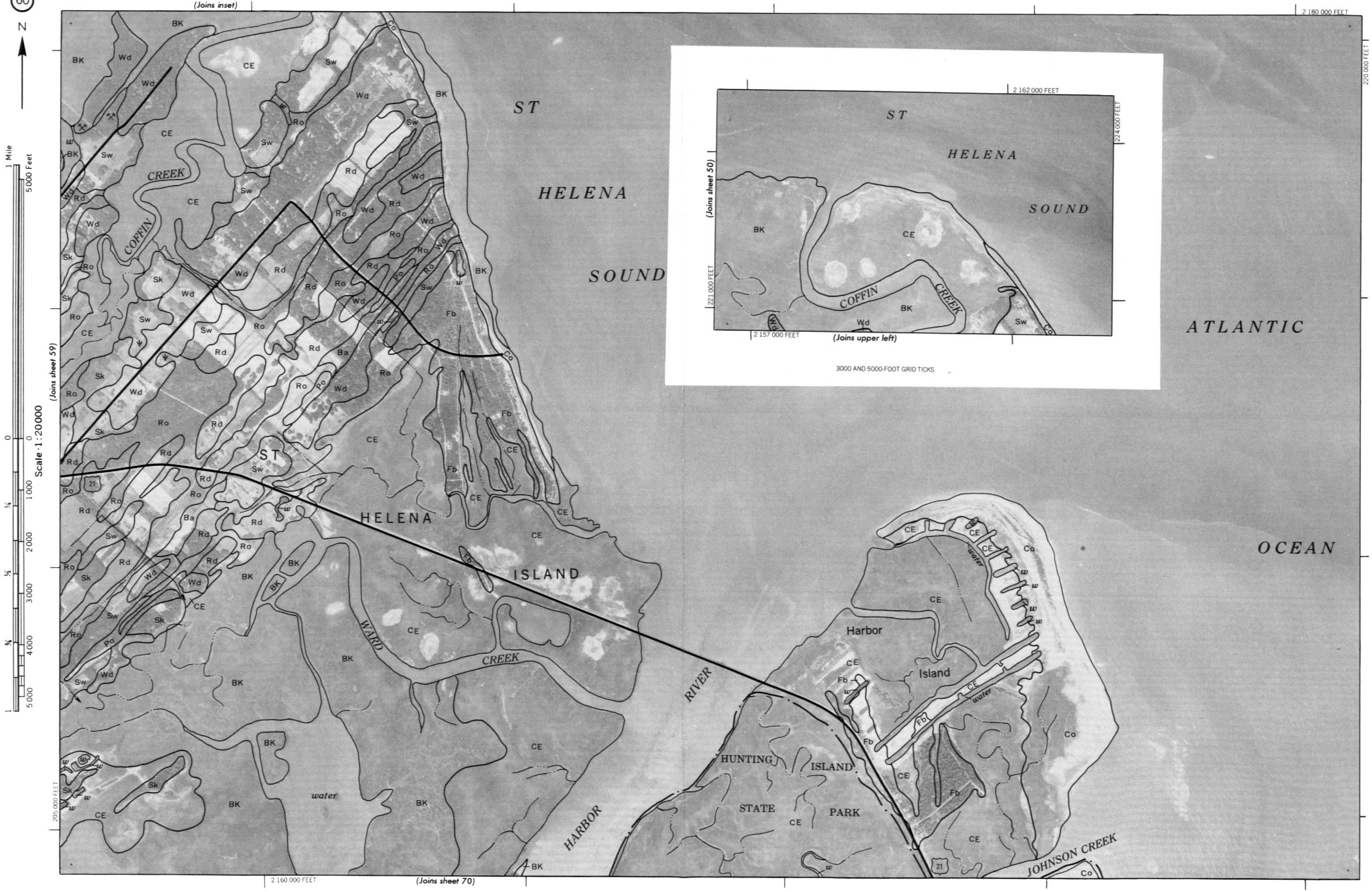

55
N
2 035 000 FEET
220 000 FEET
(Joins sheet 46)
(Joins sheet 56)
(Joins sheet 54)
(Joins sheet 65)
2 055 000 FEET
205 000 FEET
EUHAW CREEK
BROAD RIVER
BEAUFORT COUNTY
JASPER COUNTY
Hazzard Creek
HAZZARD NECK
HAZZARD CREEK
EUHAW CREEK
Bird Island
Bird Island Creek
water
int
1 Mile
5 000 Feet
Scale 1:20 000
0
¼
½
¾
1
1000
2000
3000
4000
5000


N
(Joins sheet 47)
(Joins sheet 55)
(Joins sheet 57)
(Joins sheet 66)
2 080 000 FEET
220 000 FEET
205 000 FEET
2 060 000 FEET
1 Mile
5000 Feet
Scale 1:20000
BROAD RIVER
PORT ROYAL ISLAND
HABERSHAM CREEK
EUHAW CREEK
170
280
water


2 085 000 FEET
220 000 FEET
(Joins sheet 48)
(Joins sheet 56)
(Joins sheet 58)
(Joins sheet 67)
205 000 FEET
2 105 000 FEET
N
Scale 1:20000
1 Mile
5000 Feet
Burton
BEAUFORT
PORT ROYAL ISLAND
BEAUFORT RIVER
FACTORY CREEK
BATTERY CREEK
LADIES ISLAND
Old Fort
SEABOARD
COAST LINE
WATERWAY
INTERCOASTAL
water


58
N
(Joins sheet 49)
(Joins sheet 57)
(Joins sheet 59)
(Joins sheet 68)
1 Mile
5000 Feet
Scale 1:20000
2 130 000 FEET
220 000 FEET
2 110 000 FEET
205 000 FEET
WARSAW FLATS
LADIES ISLAND
LUCY POINT CREEK
FACTORY CREEK
JENKINS CREEK
DISTANT ISLAND CREEK
Warsaw Island
Polawana Island
Frogmore
water

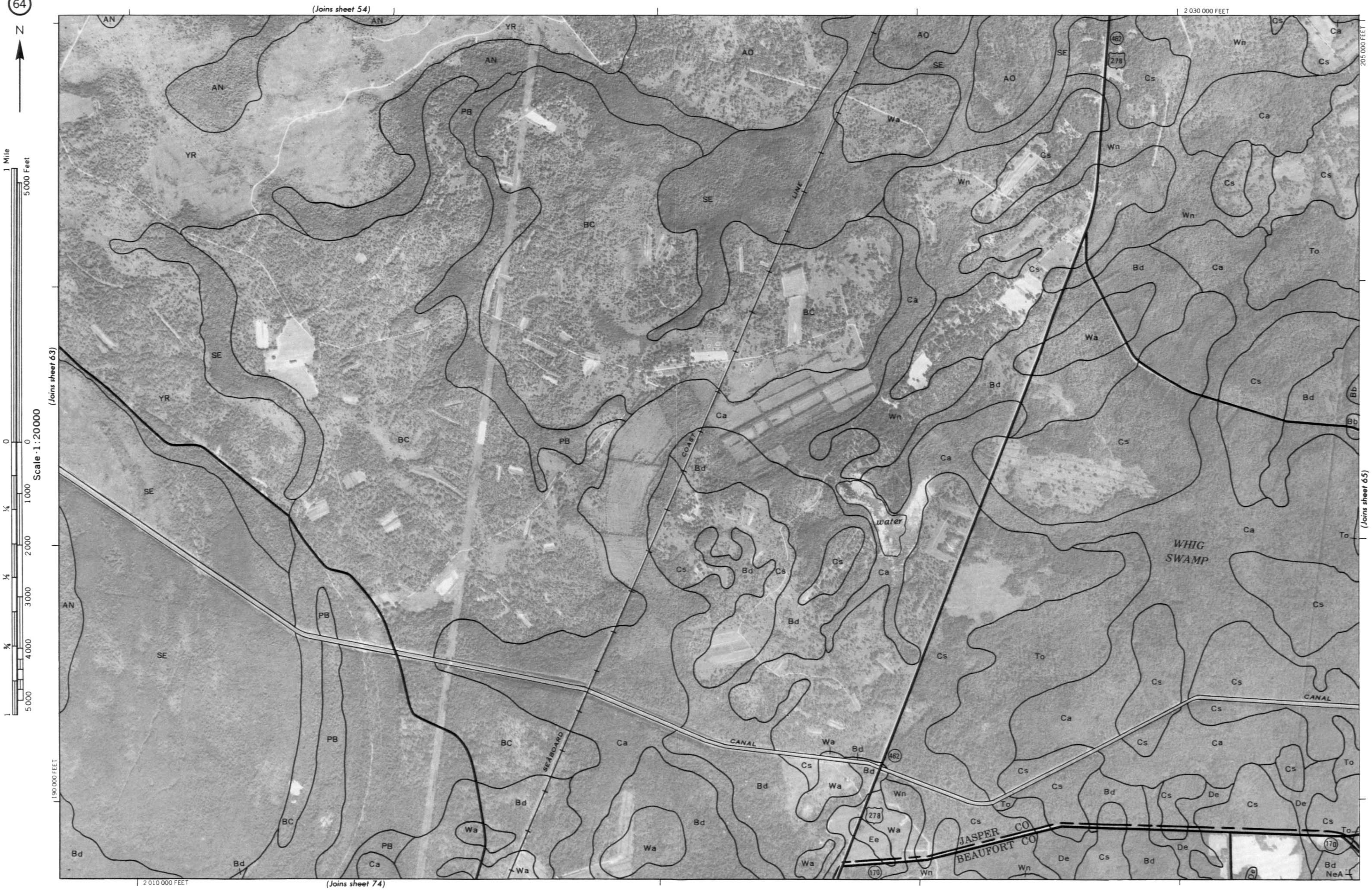

59
N
2 135 000 FEET
220 000 FEET
(Joins sheet 50)
(Joins sheet 58)
(Joins sheet 60)
(Joins sheet 69)
205 000 FEET
2 155 000 FEET
Datha
Island
Pine
Island
Jenkins
Creek
EDDINGS
POINT
CREEK
VILLAGE
CREEK
ST
HELENA
ISLAND
water
21
1 Mile
5000 Feet
0
1/4
1/2
3/4
1
Scale 1:20000
0
1000
2000
3000
4000
5000


(Joins inset)
N
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
¼
½
¾
1
(Joins sheet 59)
2 180 000 FEET
220 000 FEET
205 000 FEET
2 160 000 FEET
(Joins sheet 70)
ST HELENA SOUND
ATLANTIC OCEAN
ST HELENA ISLAND
COFFIN CREEK
WARD CREEK
HARBOR RIVER
Harbor Island
HUNTING ISLAND STATE PARK
JOHNSON CREEK
21
water
ST
HELENA
SOUND
COFFIN CREEK
2 162 000 FEET
224 000 FEET
221 000 FEET
2 157 000 FEET
(Joins sheet 50)
(Joins upper left)
3000 AND 5000-FOOT GRID TICKS
BK
Wd
CE
Sw
Ro
Rd
Sk
Po
Ba
Fb
Co
w

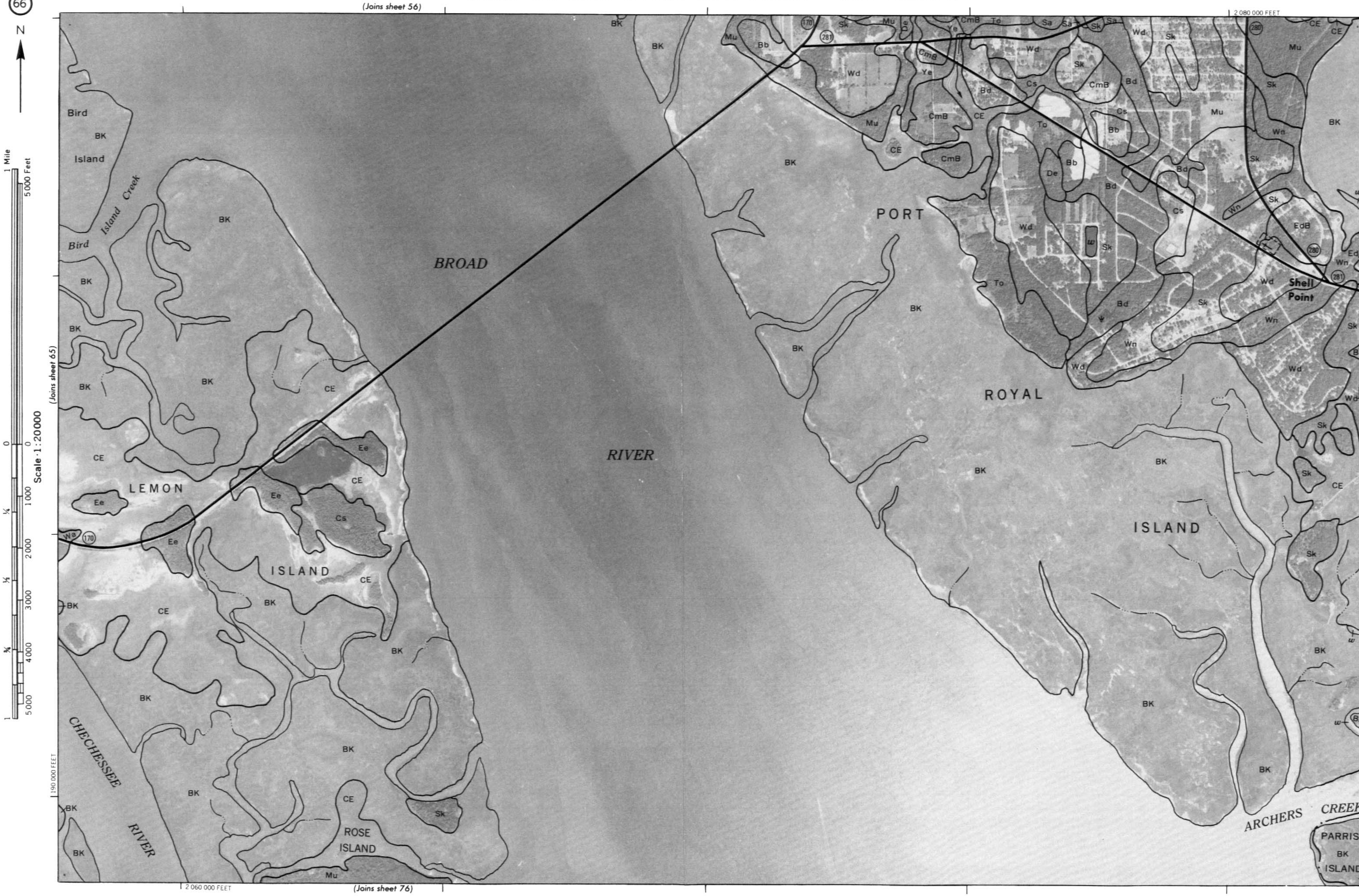

61
N
1 935 000 FEET
205 000 FEET
(Joins sheet 51)
(Joins sheet 62)
(Joins sheet 71)
1 955 000 FEET
190 000 FEET
SAVANNAH RIVER
JASPER COUNTY
EFFINGHAM COUNTY
GEORGIA
Bay Bush Point
Coleman Lake
TC
BS
SE
1 930 000 FEET
(Joins sheet 32)
237 000 FEET
(Joins sheet 42)
234 000 FEET
1 935 000 FEET
3000 AND 5000-FOOT GRID TICKS
1 Mile
5000 Feet
Scale 1:20000

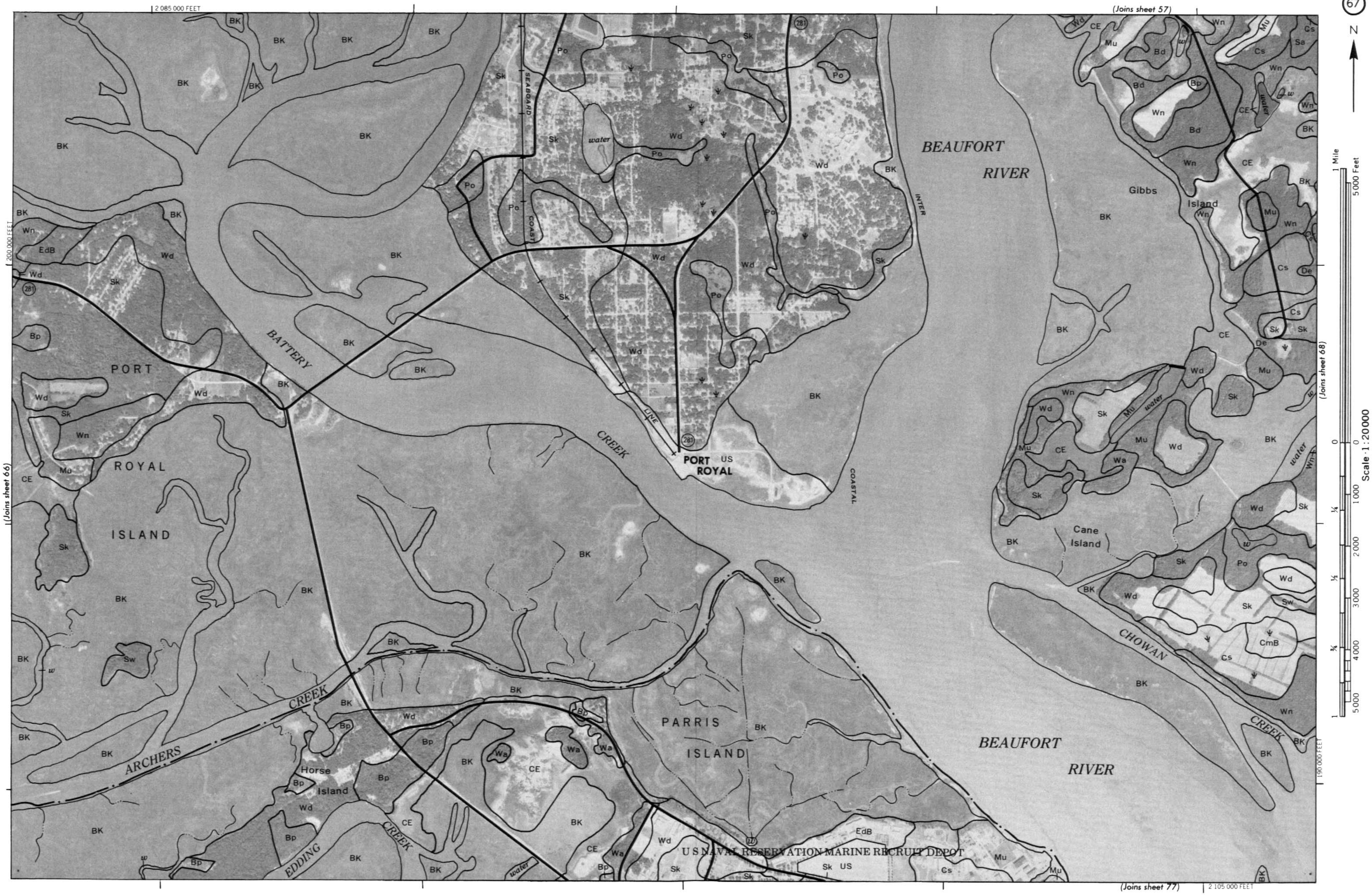

62
N
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
¼
½
¾
1
(Joins sheet 52)
(Joins sheet 61)
(Joins sheet 63)
(Joins sheet 72)
1 980 000 FEET
205 000 FEET
190 000 FEET
1 960 000 FEET
321
601
SEABOARD
COAST
LINE
Deerfield
water
water
CANAL
CANAL
Bagshaw
Swamp
Sixmile
Swamp
Fivemile
Swamp
SE
BS
AO
EU
AN
OK
TC


1 985 000 FEET
205 000 FEET
(Joins sheet 53)
(Joins sheet 62)
(Joins sheet 64)
(Joins sheet 73)
190 000 FEET
2 005 000 FEET
N
Bagshaw Swamp
Great Swamp
GREAT SWAMP
CANAL
SEABOARD COAST LINE
17
95
NEW RIVER
Sixmile Swamp
Fivemile Swamp
Bahama Swamp
Causeway Swamp
Kato Bay
AO
AN
SE
OK
YR
Wa
Cs
Bd
1 Mile
5000 Feet
Scale 1:20000


64
N
(Joins sheet 54)
(Joins sheet 63)
(Joins sheet 65)
(Joins sheet 74)
2 030 000 FEET
205 000 FEET
190 000 FEET
2 010 000 FEET
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
¼
½
¾
1
WHIG SWAMP
water
CANAL
COAST
LINE
SEABOARD
JASPER CO
BEAUFORT CO
462
278
170
AN
YR
AO
SE
PB
BC
Ca
Cs
Wa
Wn
Bd
To
Bb
De
Ee
NeA


65
N
2 035 000 FEET
205 000 FEET
(Joins sheet 55)
(Joins sheet 64)
(Joins sheet 66)
(Joins sheet 75)
2 055 000 FEET
190 000 FEET
HAZZARD
CREEK
CHECHESSEE
RIVER
CHECHESSEE
CREEK
JASPER
COUNTY
BEAUFORT
COUNTY
LEMON
ISLAND
Bird
Island
Bird
Island
Creek
SPRING
ISLAND
Fripp
Landing
Duck
Pond
CANAL
water
int
170
1 Mile
5000 Feet
Scale 1:20000

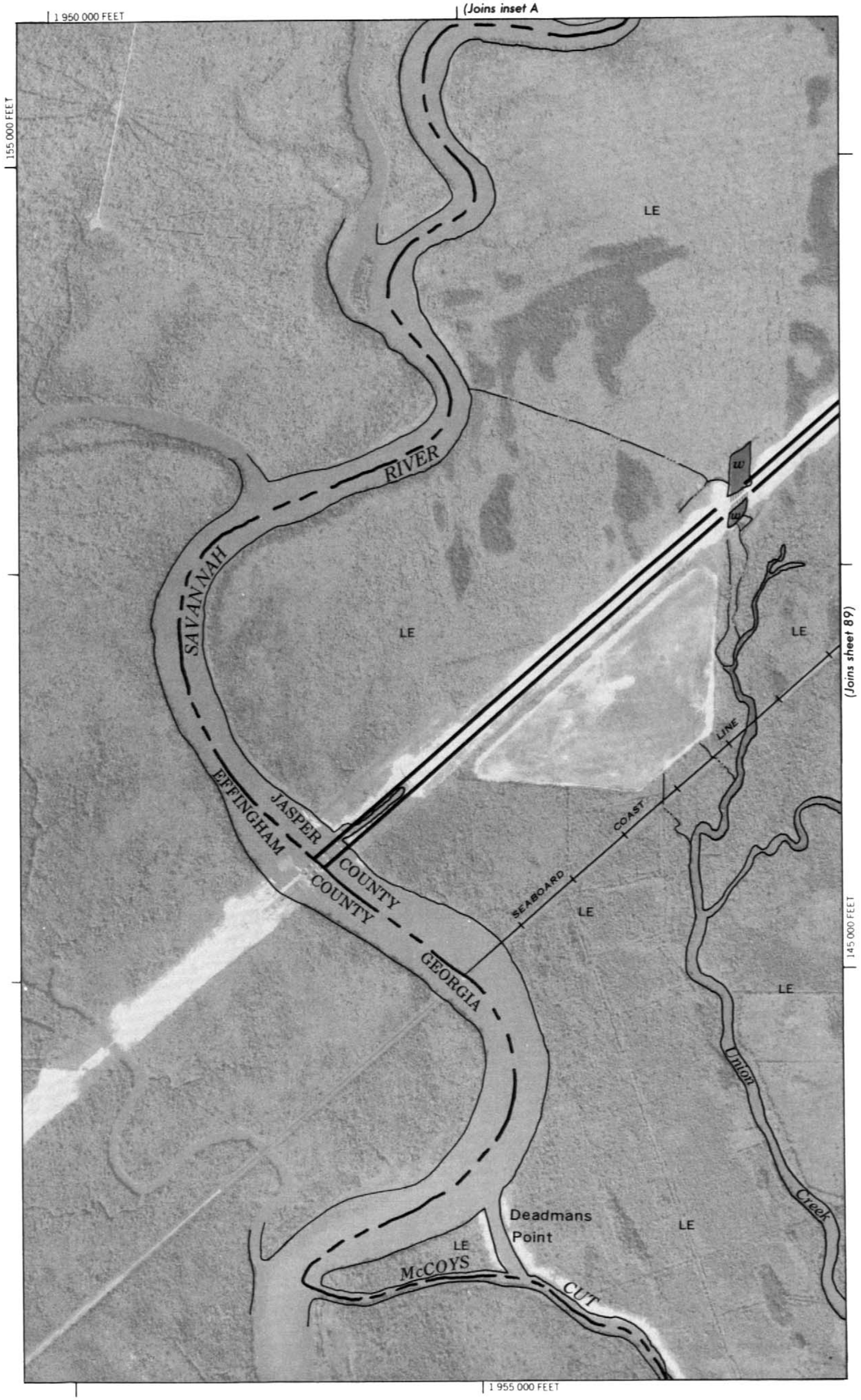

(Joins sheet 56)
(Joins sheet 65)
(Joins sheet 67)
(Joins sheet 76)
N
Scale 1:20000
1 Mile
5000 Feet
2 080 000 FEET
2 060 000 FEET
190 000 FEET
200 000 FEET
Bird Island
Bird Island Creek
BROAD
RIVER
PORT
ROYAL
ISLAND
LEMON
ISLAND
ROSE ISLAND
CHECHESSEE
RIVER
Shell Point
ARCHERS CREEK
PARRIS ISLAND

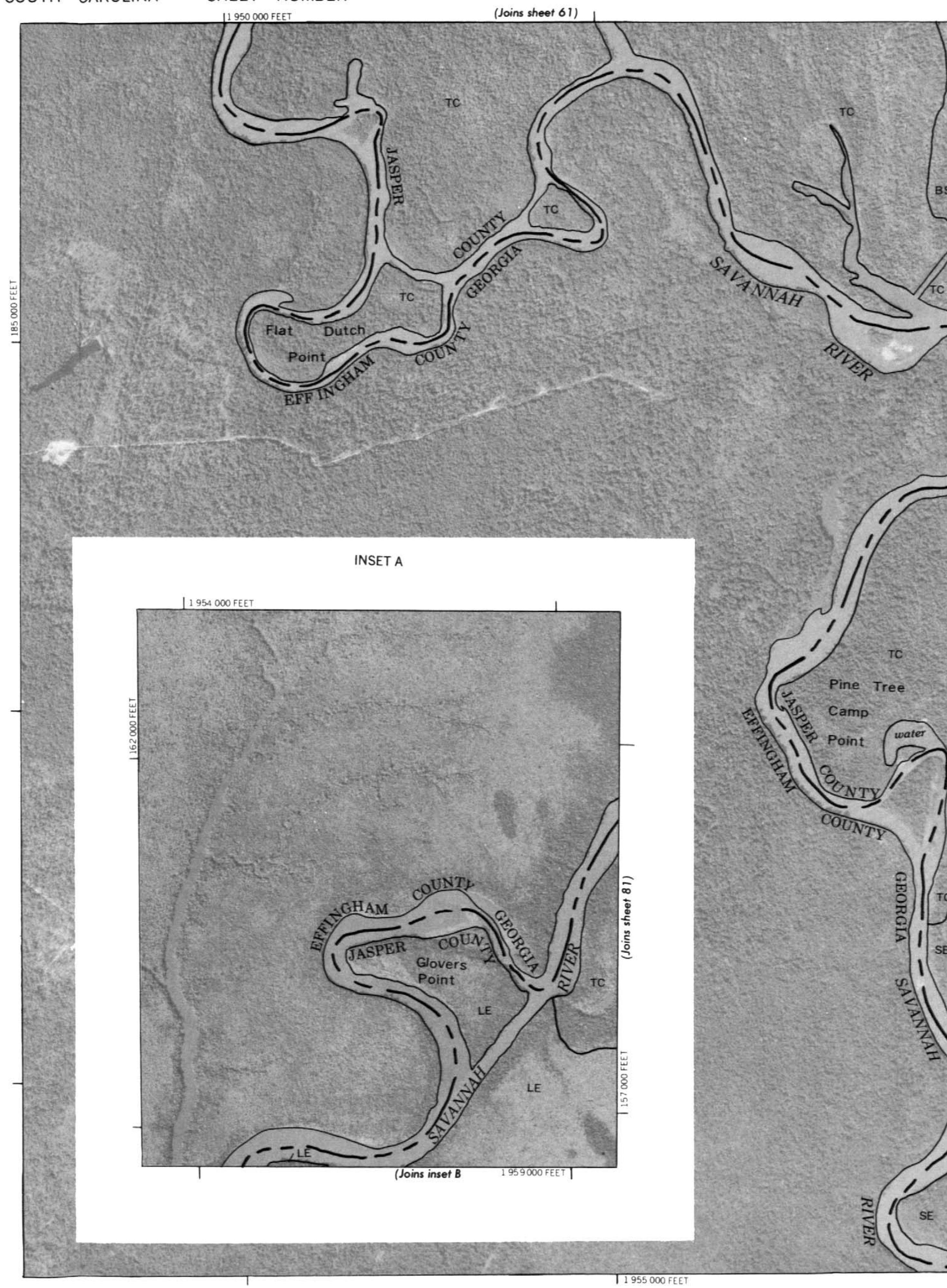

(Joins sheet 57)
(Joins sheet 66)
(Joins sheet 68)
(Joins sheet 77)
2 085 000 FEET
2 105 000 FEET
200 000 FEET
190 000 FEET
N
Scale 1:20000
1 Mile
5000 Feet
BEAUFORT RIVER
PORT ROYAL ISLAND
BATTERY CREEK
PORT ROYAL
US
SEABOARD COAST LINE
INTER COASTAL
Gibbs Island
Cane Island
CHOWAN CREEK
PARRIS ISLAND
ARCHERS CREEK
Horse Island
EDDING CREEK
U S NAVAL RESERVATION MARINE RECRUIT DEPOT
water

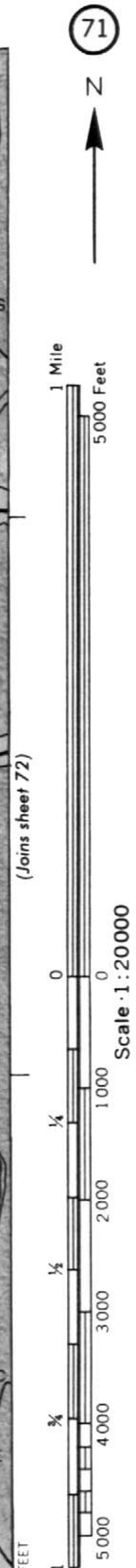

68
N
(Joins sheet 58)
(Joins sheet 67)
(Joins sheet 69)
(Joins sheet 78)
Frogmore
CHOWAN CREEK
DISTANT ISLAND CREEK
CAPERS CREEK
Cat Island
ST HELENA ISLAND
2 130 000 FEET
2 110 000 FEET
200 000 FEET
190 000 FEET
Scale 1:20000
1 Mile
5000 Feet
0
¼
½
¾
1
1000
2000
3000
4000
5000


69
N
2 135 000 FEET
(Joins sheet 59)
200 000 FEET
(Joins sheet 68)
(Joins sheet 70)
(Joins sheet 79)
190 000 FEET
2 155 000 FEET
ST
HELENA
ISLAND
HARBOR
RIVER
HARBOR
RIVER
HARBOR RIVER
FRIPPS
INLET
INLET
TRENCHARDS
TRENCHARDS
INLET
Club
Bridge
Creek
water
1 Mile
5000 Feet
0
¼
½
¾
1
0
1000
2000
3000
4000
5000
Scale 1:20000


70
N
(Joins sheet 60)
(Joins sheet 69)
(Joins sheet 80)
2 180 000 FEET
200 000 FEET
190 000 FEET
2 160 000 FEET
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
¼
½
¾
1
RIVER
HARBOR
HUNTING
ISLAND
HUNTING
ISLAND
STATE
PARK
Harbor
Island
JOHNSON
CREEK
Russ
Point
FRIPPS
INLET
Beach
Island
Hunting
water
ATLANTIC
OCEAN
BK
CE
Co
Fb
Os
w

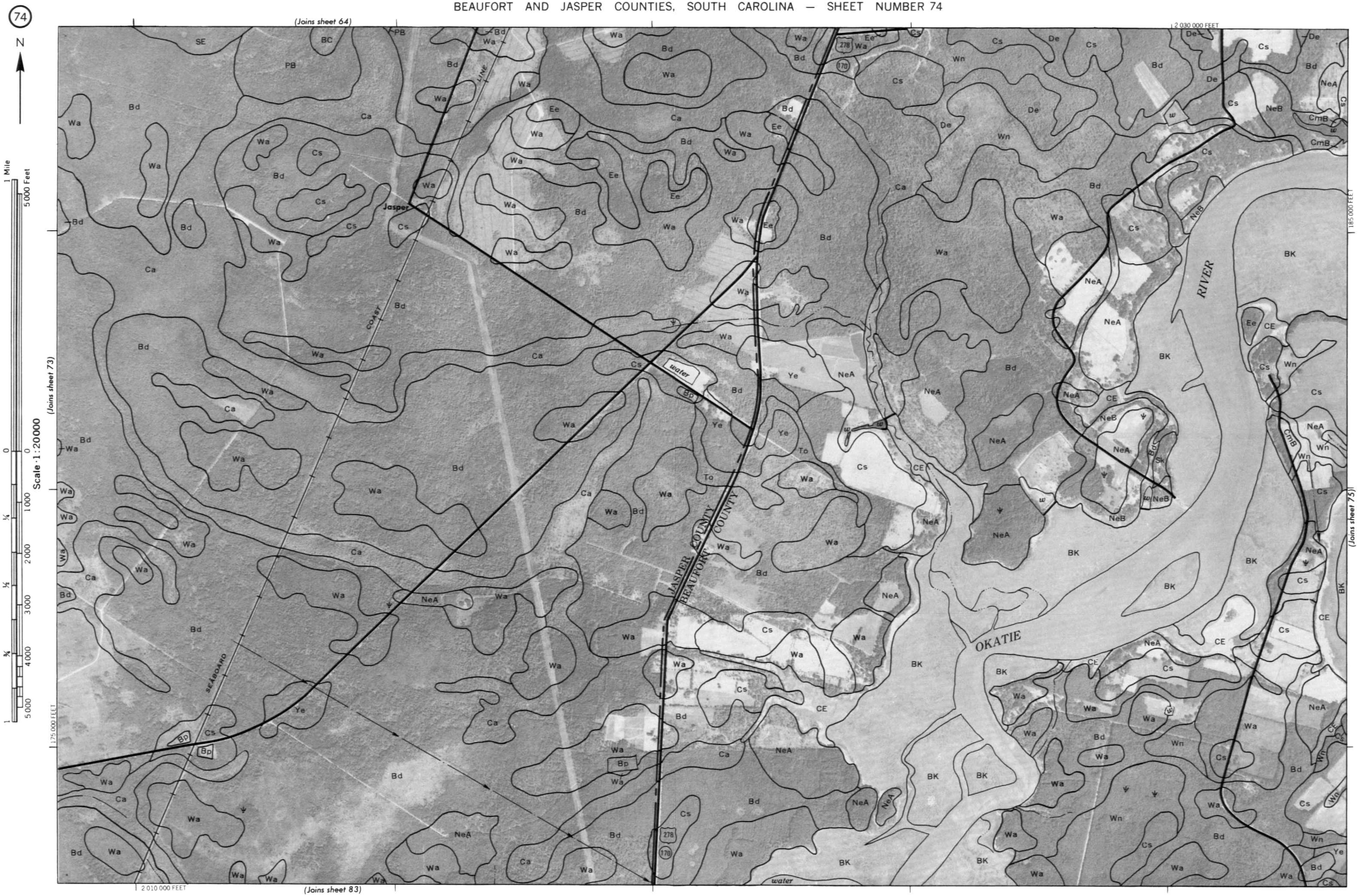

(Joins inset A)
1 950 000 FEET
155 000 FEET
LE
RIVER
SAVANNAH
EFFINGHAM
JASPER
COUNTY
COUNTY
GEORGIA
SEABOARD
COAST
LINE
(Joins sheet 89)
145 000 FEET
Union
Creek
Deadmans
Point
McCOYS
CUT
1 955 000 FEET

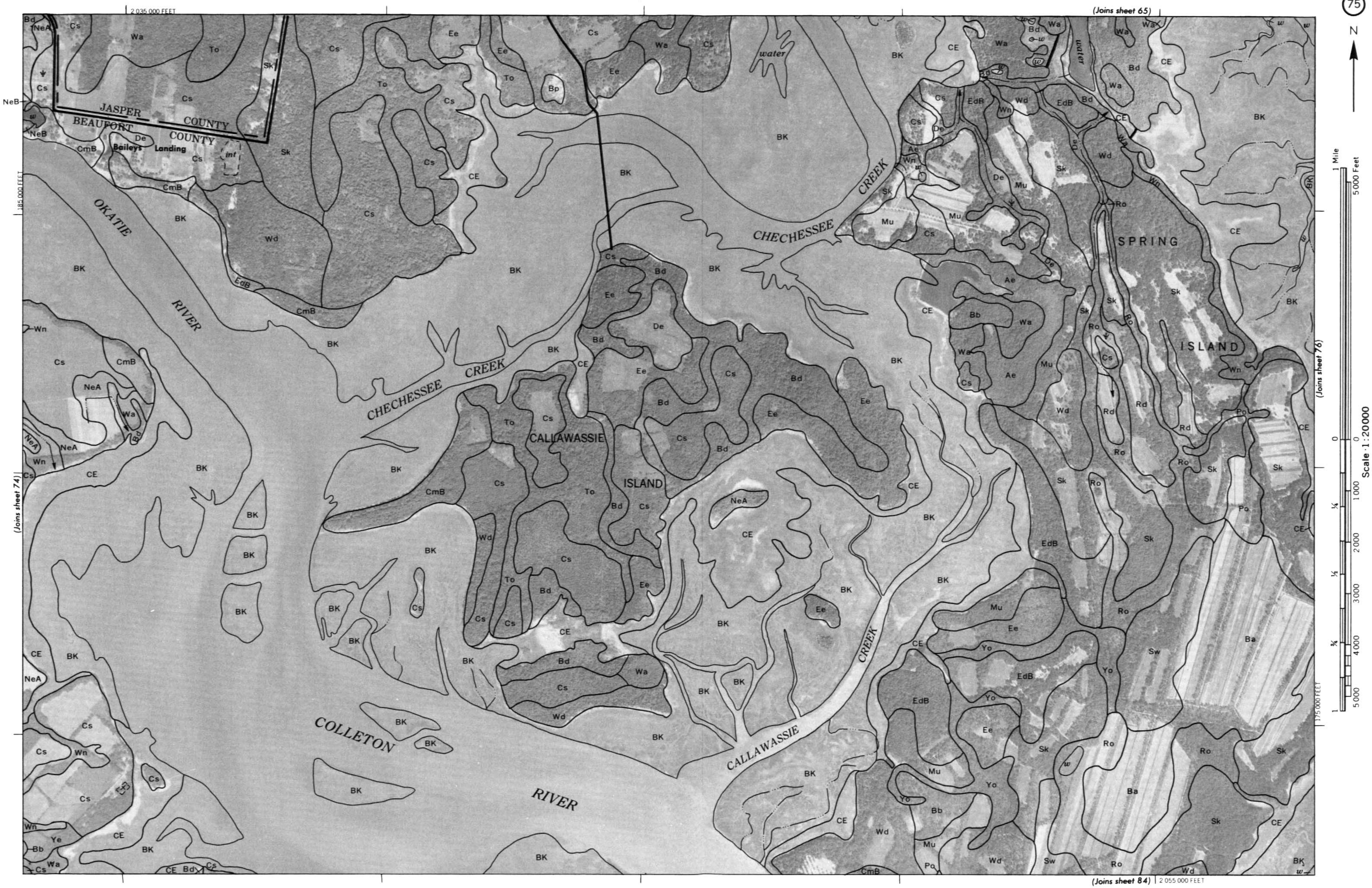

(Joins sheet 61)
1 950 000 FEET
185 000 FEET
TC
BS
JASPER
COUNTY
GEORGIA
COUNTY
EFFINGHAM
Flat Dutch
Point
SAVANNAH
RIVER
(Joins sheet 72)
INSET A
1 954 000 FEET
162 000 FEET
EFFINGHAM COUNTY
GEORGIA
JASPER COUNTY
Glovers
Point
RIVER
SAVANNAH
LE
(Joins sheet 81)
157 000 FEET
(Joins inset B)
1 959 000 FEET
Pine Tree
Camp
Point
water
SE
175 000 FEET
1 955 000 FEET

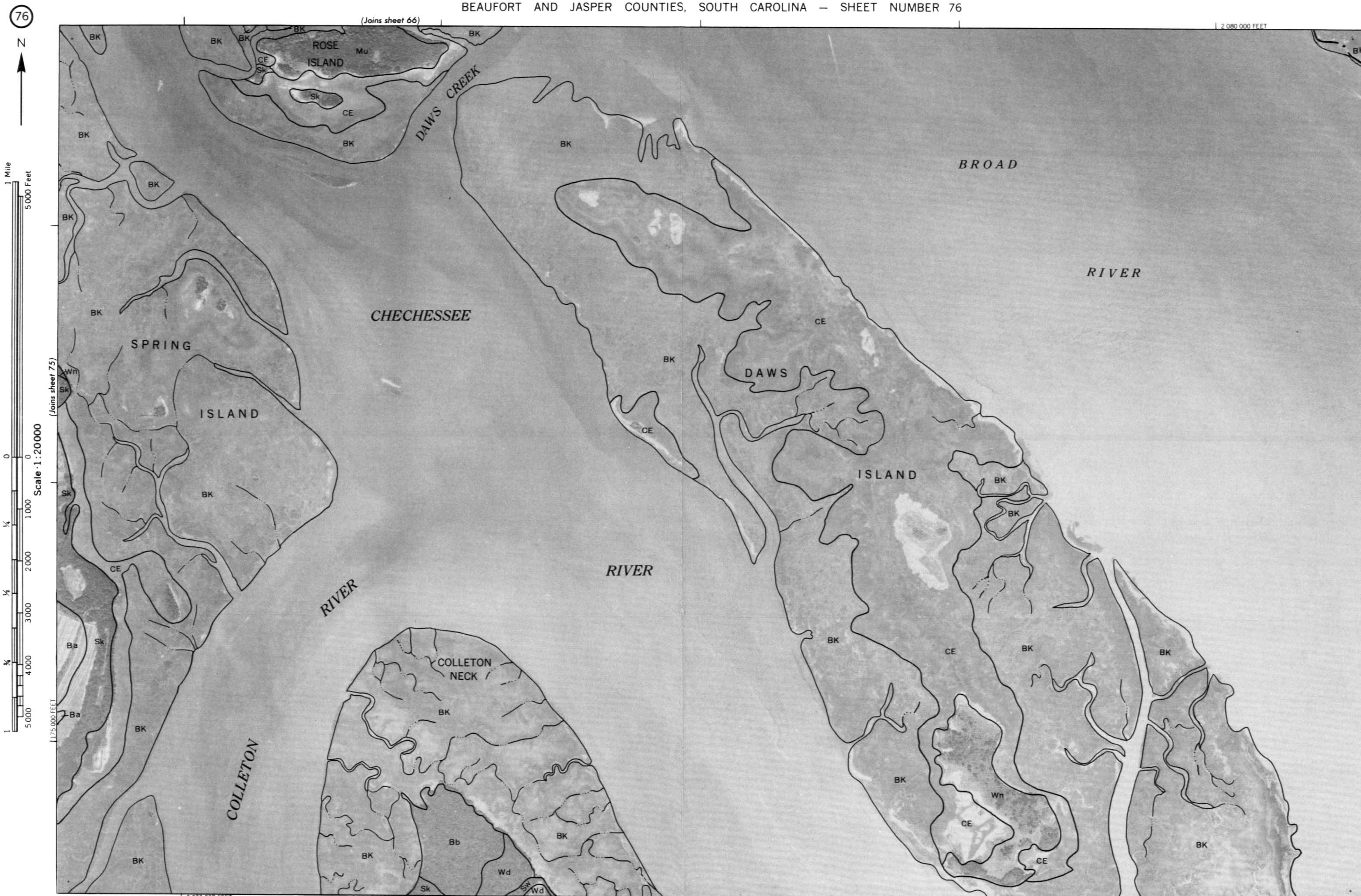

71
N
1 Mile
5000 Feet
0
1/4
1/2
3/4
1
0
1000
2000
3000
4000
5000
Scale 1:20000

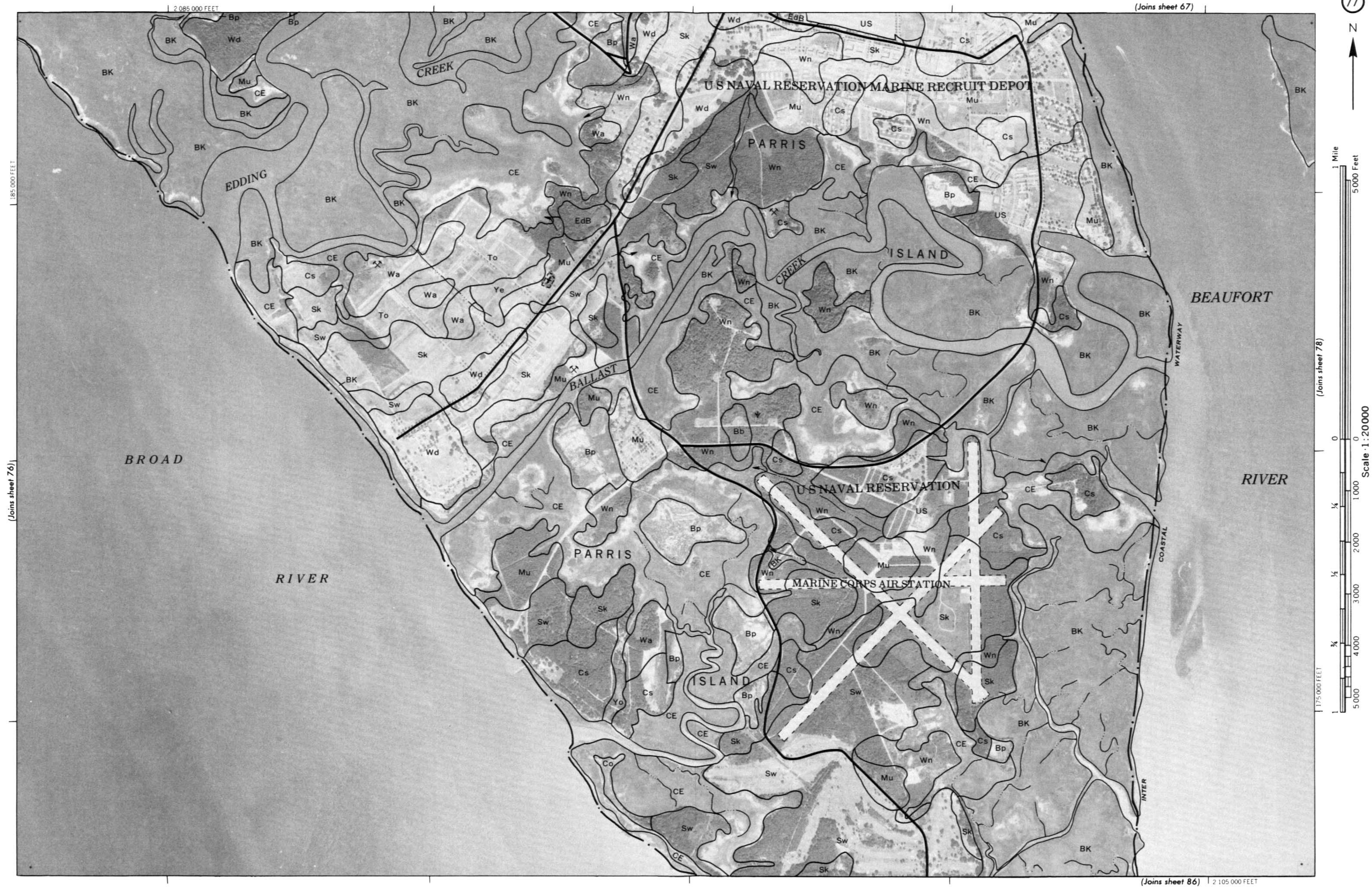

(Joins sheet 62)
(Joins sheet 71)
(Joins sheet 73)
(Joins sheet 81)
N
Scale 1:20000
1 Mile
5000 Feet
1 980 000 FEET
185 000 FEET
175 000 FEET
1 960 000 FEET
GEORGIA
EFFINGHAM COUNTY
SAVANNAH RIVER
MEYERS LAKE
Bride Point
CANAL
SEABOARD COAST LINE
Brickyard Swamp


73
N
(Joins sheet 63)
(Joins sheet 72)
(Joins sheet 74)
(Joins sheet 82)
1 985 000 FEET
185 000 FEET
175 000 FEET
2 005 000 FEET
GREAT SWAMP
GREAT SWAMP
NEW RIVER
Bob Dam Swamp
Brickyard Swamp
SEABOARD COAST LINE
17
95
AO
AN
OK
EU
SE
Bp
Bd
Ca
Cs
Ee
Wa
Sa
1 Mile
5000 Feet
Scale 1:20000
0
¼
½
¾
1
1000
2000
3000
4000
5000

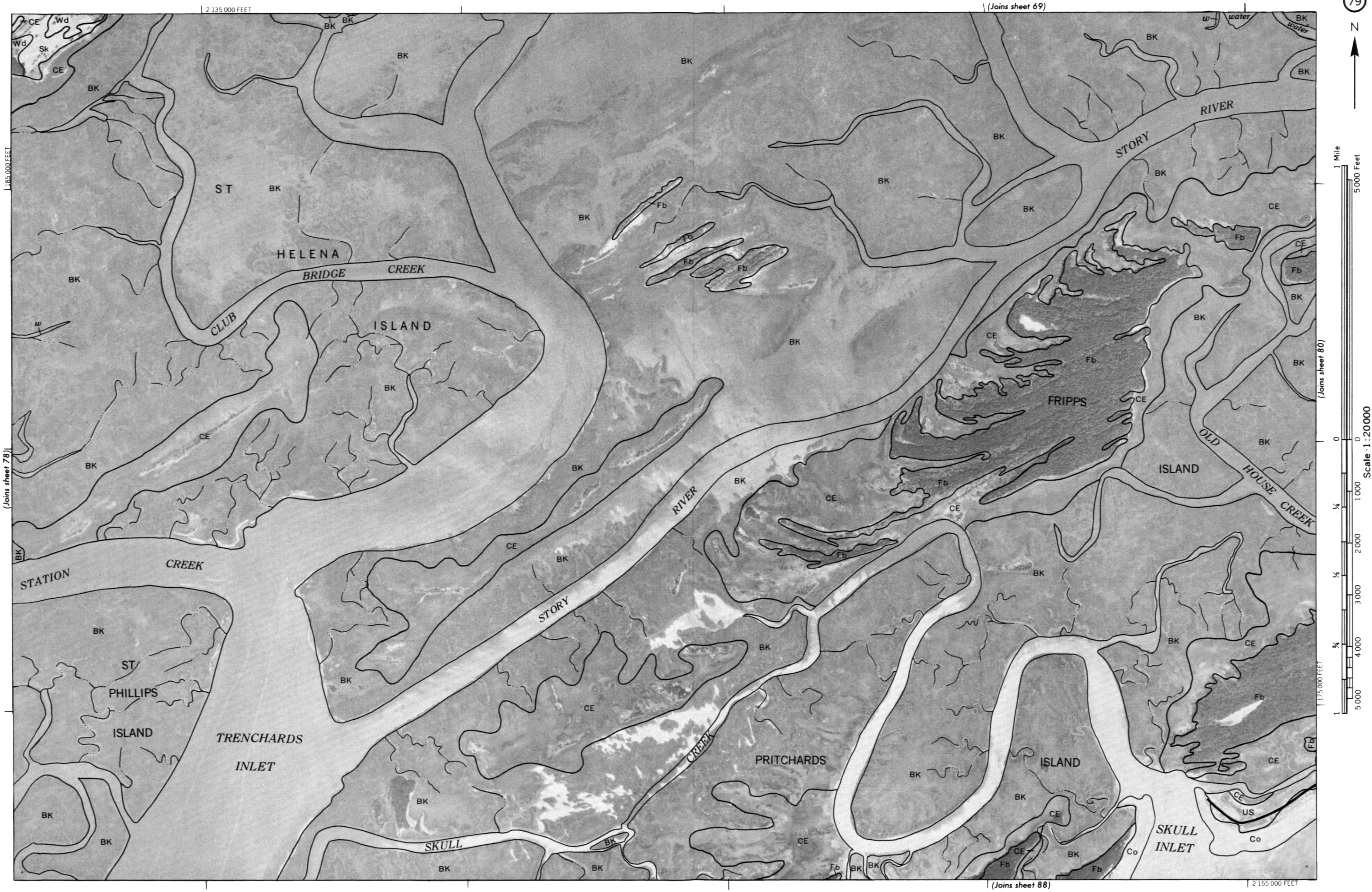

74
N
1 Mile
5000 Feet
Scale 1:20000
(Joins sheet 64)
(Joins sheet 73)
(Joins sheet 75)
(Joins sheet 83)
2 030 000 FEET
185 000 FEET
175 000 FEET
2 010 000 FEET
Jasper
COAST
LINE
SEABOARD
JASPER COUNTY
BEAUFORT COUNTY
OKATIE
RIVER
water
278
170


(Joins sheet 65)
(Joins sheet 74)
(Joins sheet 76)
(Joins sheet 84)
2 035 000 FEET
185 000 FEET
175 000 FEET
2 055 000 FEET
N
1 Mile
5000 Feet
Scale 1:20000
JASPER COUNTY
BEAUFORT COUNTY
Baileys Landing
OKATIE RIVER
CHECHESSEE CREEK
CALLAWASSIE ISLAND
SPRING ISLAND
COLLETON RIVER
CALLAWASSIE CREEK
water


76
N
(Joins sheet 66)
(Joins sheet 75)
(Joins sheet 77)
(Joins sheet 85)
2 080 000 FEET
2 060 000 FEET
185 000 FEET
175 000 FEET
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
ROSE ISLAND
DAWS CREEK
BROAD
RIVER
CHECHESSEE
SPRING
ISLAND
DAWS
ISLAND
RIVER
RIVER
COLLETON NECK
COLLETON
BK
Mu
CE
Sk
Wn
Ba
Bb
Wd
Sw

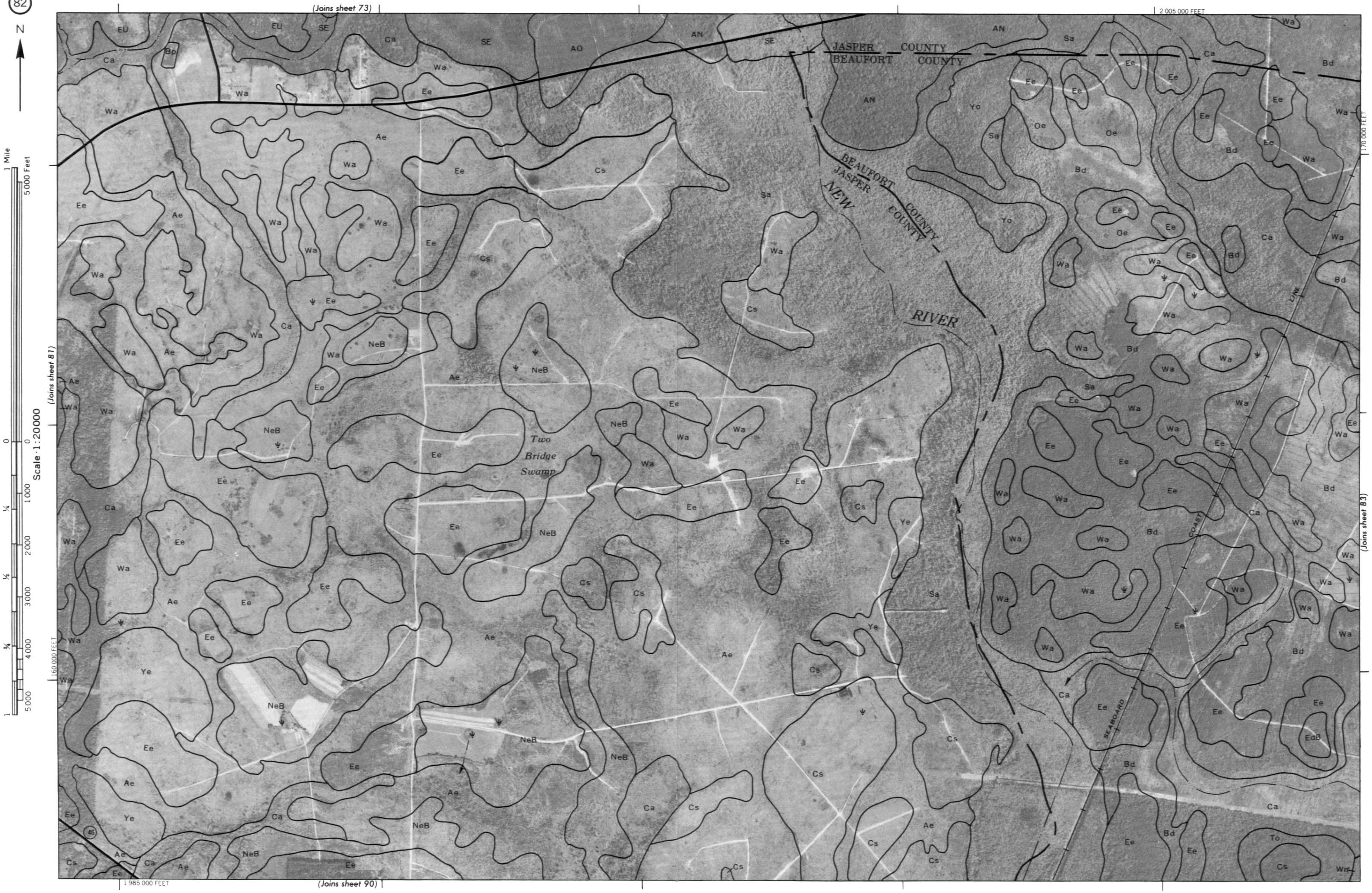

77
N
(Joins sheet 67)
(Joins sheet 76)
(Joins sheet 78)
(Joins sheet 86)
2 085 000 FEET
185 000 FEET
175 000 FEET
2 105 000 FEET
U S NAVAL RESERVATION MARINE RECRUIT DEPOT
U S NAVAL RESERVATION
MARINE CORPS AIR STATION
PARRIS
ISLAND
PARRIS
ISLAND
EDDING
CREEK
BALLAST
CREEK
BROAD
RIVER
BEAUFORT
RIVER
INTER
COASTAL
WATERWAY
1 Mile
5000 Feet
Scale 1:20000

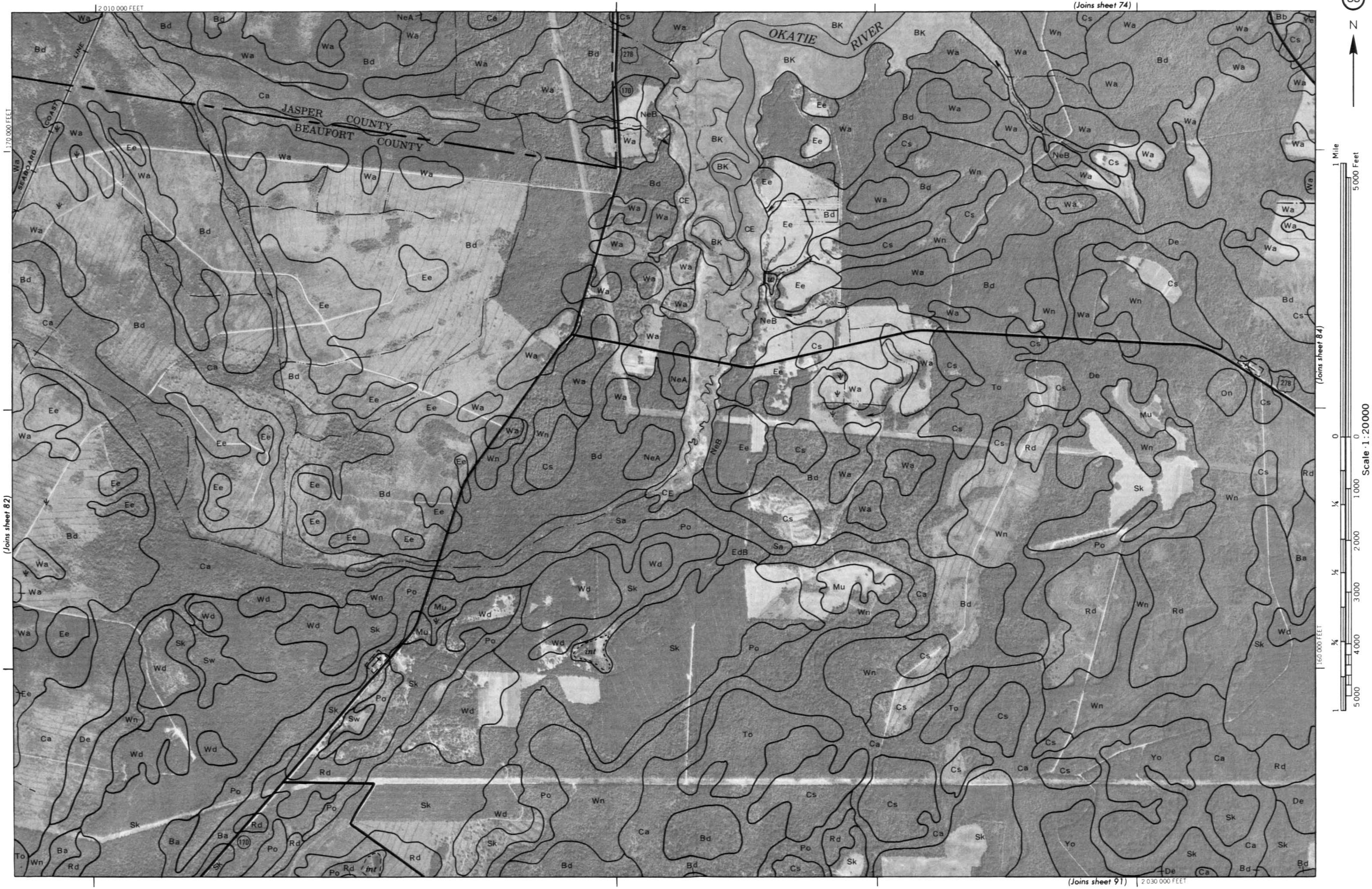
BEAUFORT AND JASPER COUNTIES, SOUTH CAROLINA — SHEET NUMBER 78


2 135 000 FEET
(Joins sheet 69)
(Joins sheet 78)
(Joins sheet 80)
(Joins sheet 88)
185 000 FEET
175 000 FEET
2 155 000 FEET
ST HELENA ISLAND
CLUB BRIDGE CREEK
STATION CREEK
ST PHILLIPS ISLAND
TRENCHARDS INLET
STORY RIVER
FRIPPS ISLAND
OLD HOUSE CREEK
PRITCHARDS ISLAND
SKULL CREEK
SKULL INLET
BK
CE
Fb
Wd
Sk
US
Co
w
water
N
1 Mile
5000 Feet
0
1000
2000
3000
4000
5000
¼
½
¾
1
Scale 1:20000

BEAUFORT AND JASPER COUNTIES, SOUTH CAROLINA — SHEET NUMBER 80

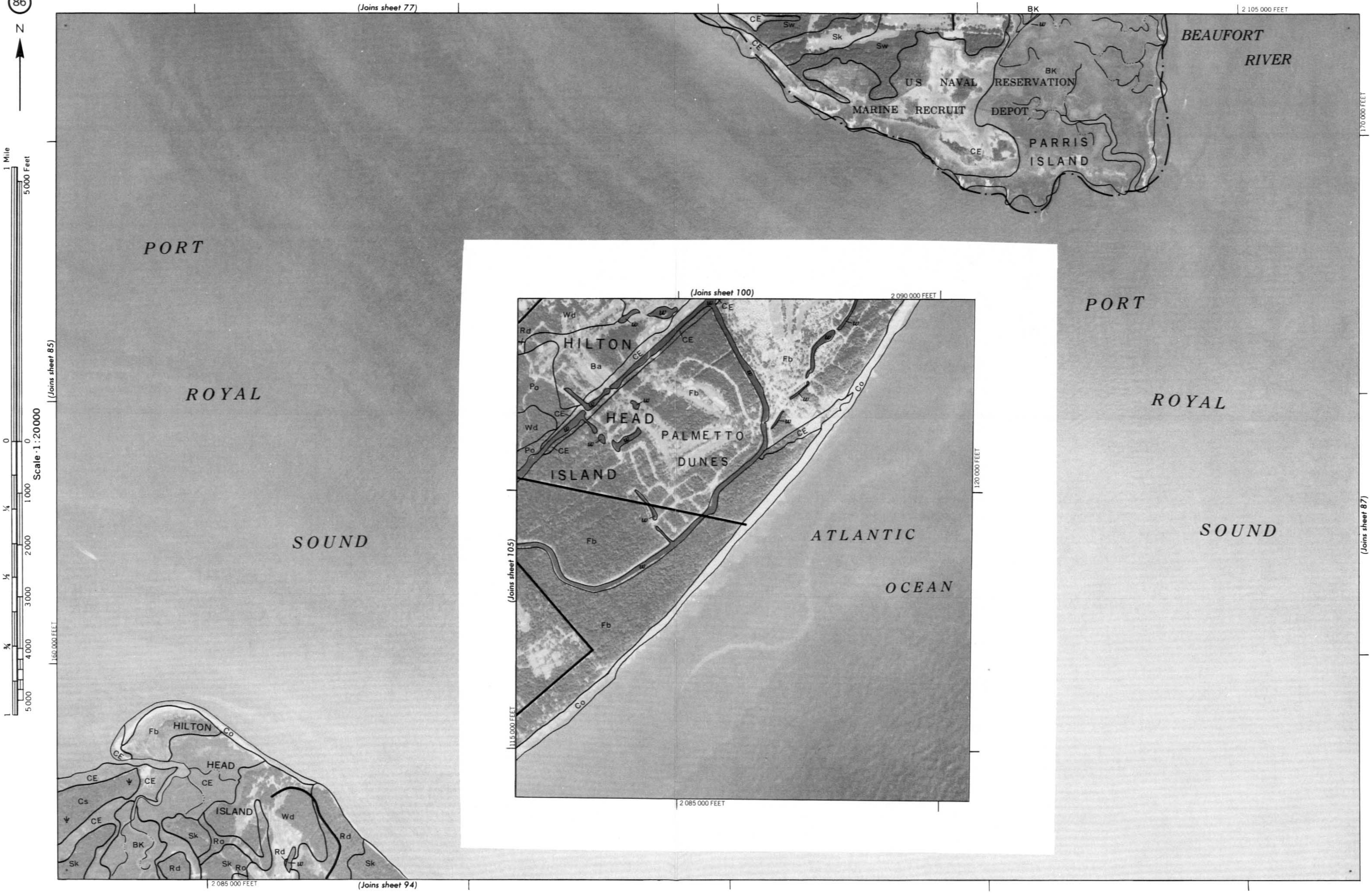

(Joins sheet 72)
(Joins sheet 82)
(Joins sheet 89)
(Joins inset A, sheet 71)
1 960 000 FEET
1 980 000 FEET
170 000 FEET
160 000 FEET
N
Scale 1:20000
1 Mile
5000 Feet
0
1000
2000
3000
4000
5000
¼
½
¾
Brickyard Swamp
SAVANNAH RIVER
GEORGIA
EFFINGHAM COUNTY
Wood Landing
Purrysburg
Purrysburg Station
Hardeeville
SEABOARD COAST LINE
321
601
17
95
46
SE
OK
AO
TC
LE
Pk
Ee
Bd
Ye
Ca
Mu
Wa
Wn
To
Bp
UL
Oe
De
Ae
Cs
Sa
CmB
EU
w

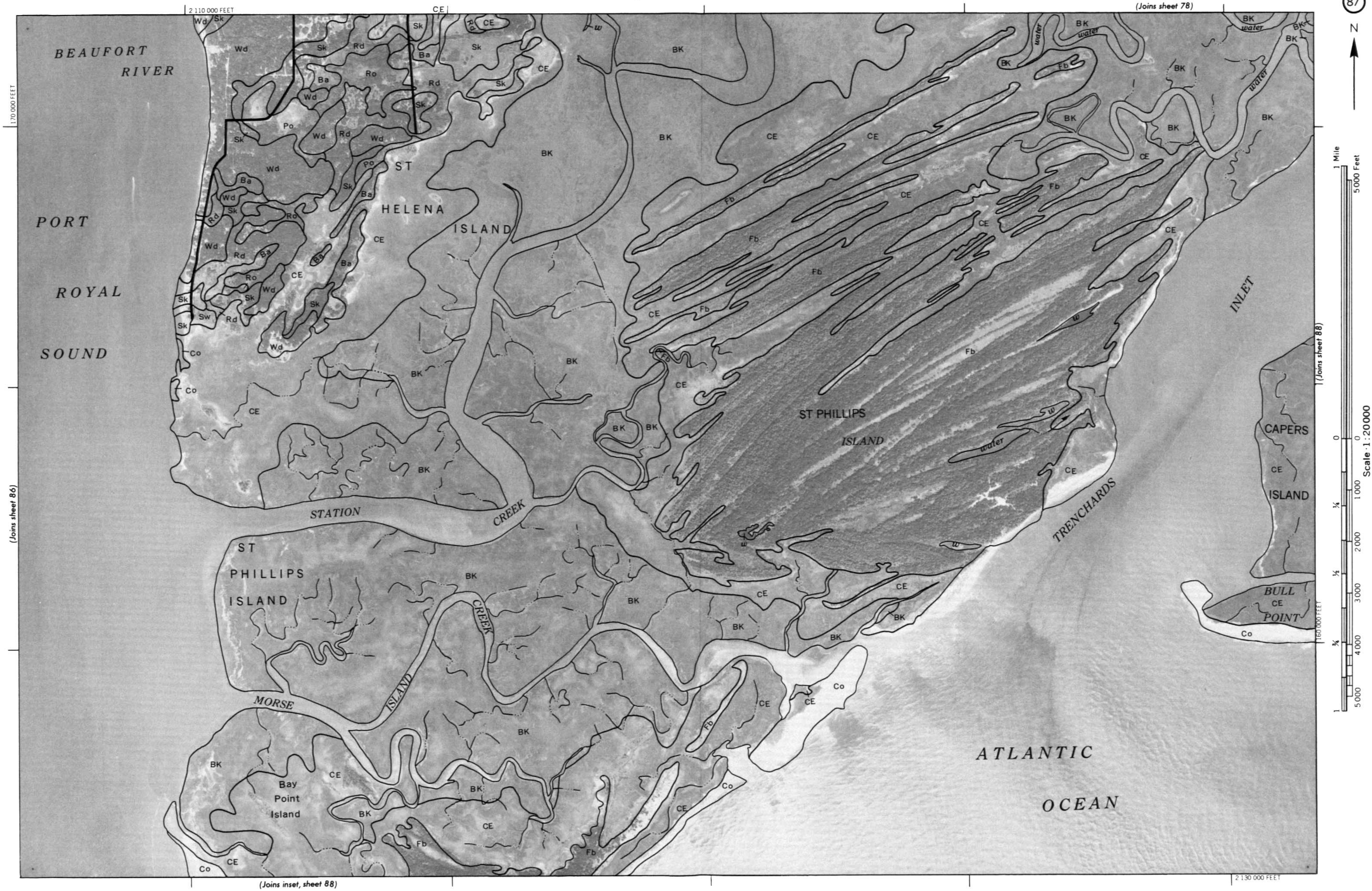

82
N
(Joins sheet 73)
2 005 000 FEET
JASPER COUNTY
BEAUFORT COUNTY
BEAUFORT COUNTY
JASPER COUNTY
NEW RIVER
Two Bridge Swamp
170 000 FEET
160 000 FEET
(Joins sheet 81)
(Joins sheet 83)
SEABOARD COAST LINE
1 985 000 FEET
(Joins sheet 90)
Scale 1:20000
1 Mile
5000 Feet

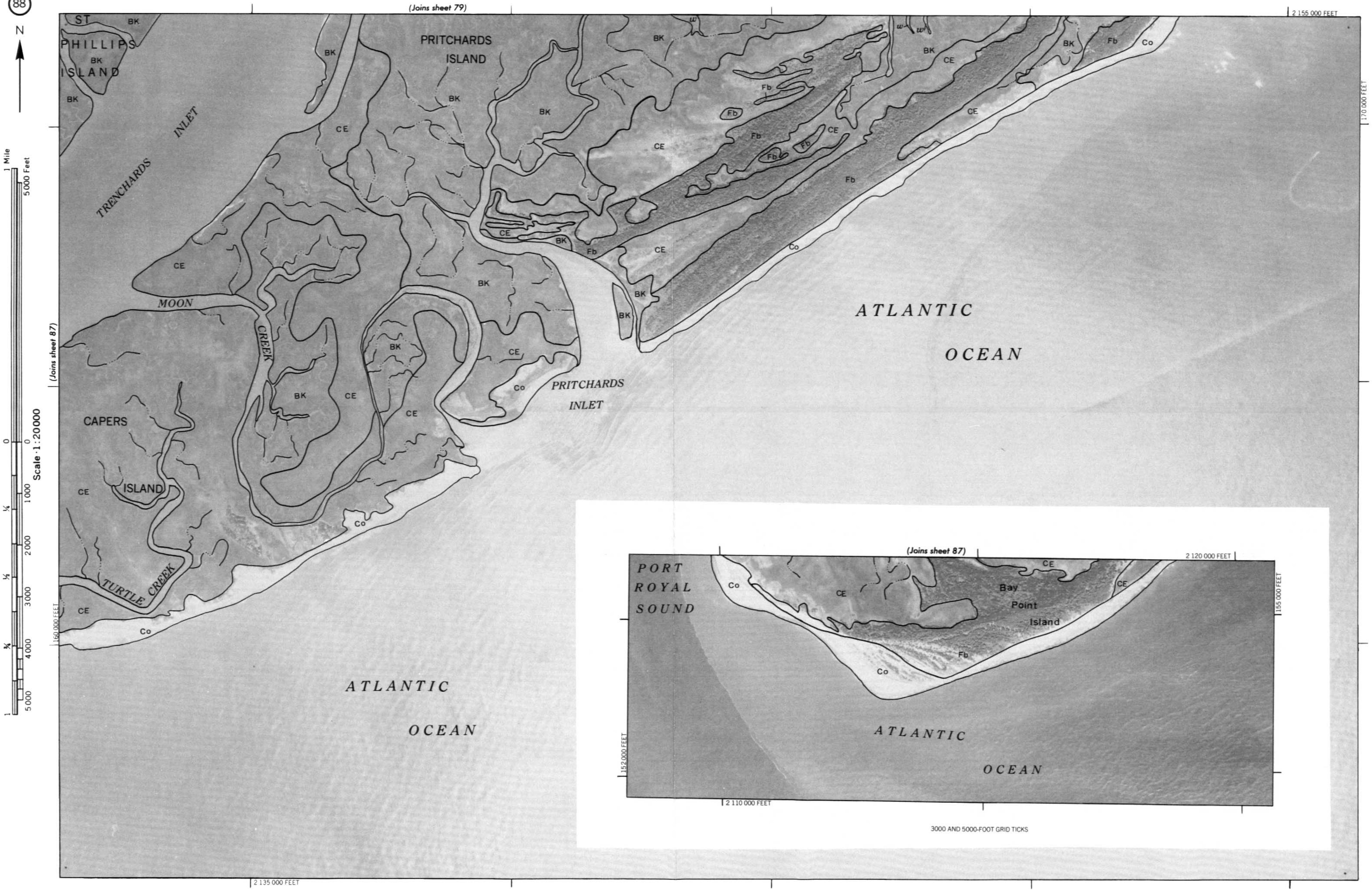

(Joins sheet 74)
(Joins sheet 82)
(Joins sheet 84)
(Joins sheet 91)
2 010 000 FEET
2 030 000 FEET
170 000 FEET
160 000 FEET
OKATIE RIVER
JASPER COUNTY
BEAUFORT COUNTY
SEABOARD COAST LINE
278
170
N
1 Mile
5000 Feet
Scale 1:20000


84
N
(Joins sheet 75)
(Joins sheet 83)
(Joins sheet 85)
(Joins sheet 92)
COLLETON RIVER
SAWMILL CREEK
SPRING ISLAND
water
2 055 000 FEET
170 000 FEET
160 000 FEET
2 035 000 FEET
Scale 1:20000
1 Mile
5 000 Feet
278
46

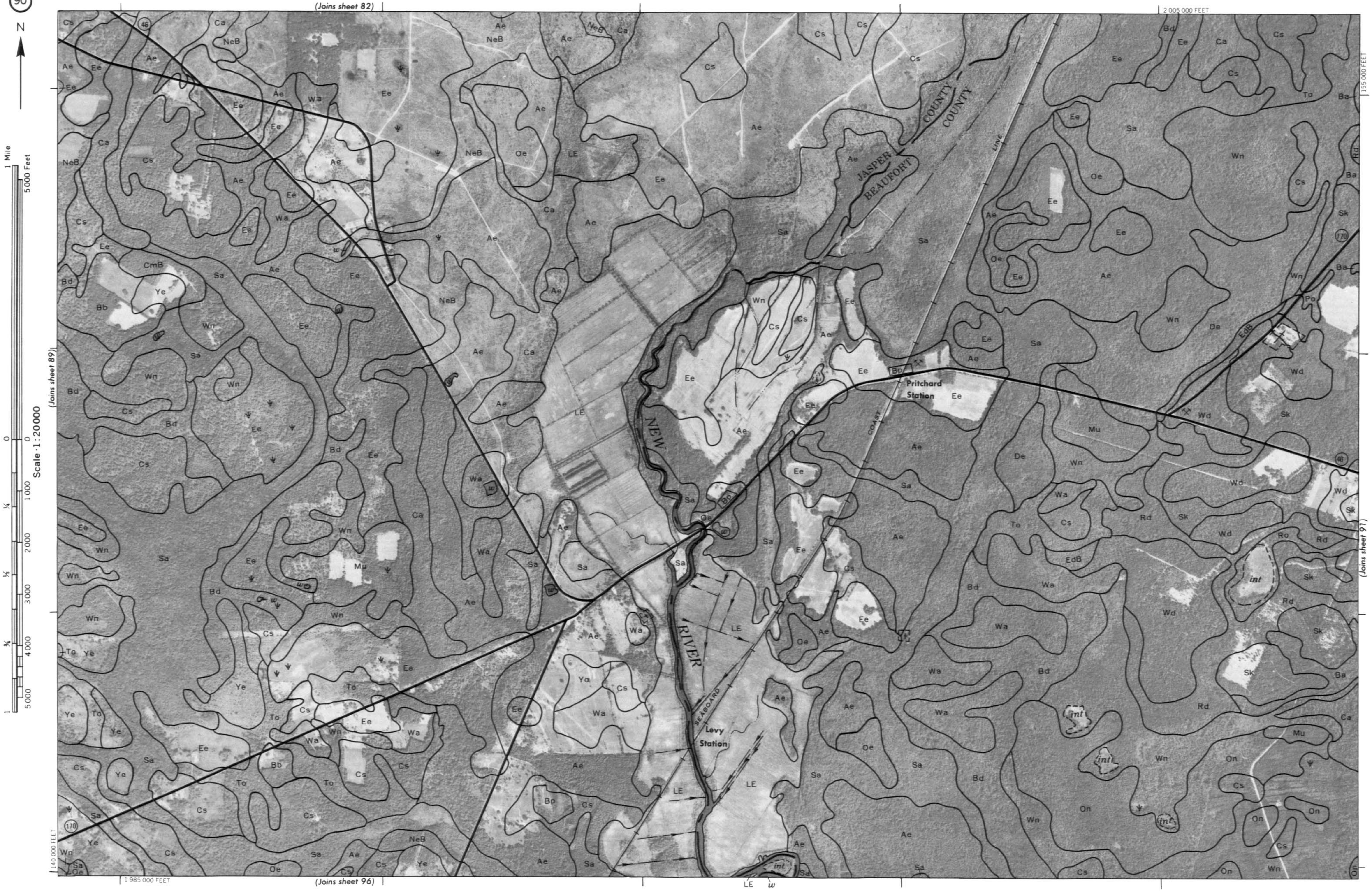

2 060 000 FEET
(Joins sheet 76)
CHECHESSEE RIVER
COLLETON
RIVER
PORT
ROYAL
SOUND
MACKAY
CREEK
PINCKNEY
ISLAND
SKULL
CREEK
INTER
COASTAL
WATERWAY
intermittent
water
(Joins sheet 84)
(Joins sheet 86)
(Joins sheet 93)
2 080 000 FEET
170 000 FEET
160 000 FEET
N
Scale 1:20000
1 Mile
5000 Feet
BK
Wd
Sw
Sk
Po
CE
Ba
Ro
Rd
Bb
Mu
Ye
Wn
Co
Cs
int


N
Scale 1:20000
1 Mile
5000 Feet
(Joins sheet 77)
(Joins sheet 85)
(Joins sheet 87)
(Joins sheet 94)
(Joins sheet 100)
(Joins sheet 105)
2 105 000 FEET
170 000 FEET
160 000 FEET
2 085 000 FEET
2 090 000 FEET
120 000 FEET
115 000 FEET
BEAUFORT
RIVER
US NAVAL RESERVATION
MARINE RECRUIT DEPOT
PARRIS ISLAND
PORT ROYAL SOUND
PORT ROYAL SOUND
HILTON HEAD ISLAND
PALMETTO DUNES
ATLANTIC OCEAN
HILTON HEAD ISLAND
BK
CE
Sw
Sk
Wd
Rd
Ba
Po
Fb
Co
Cs
Ro
w

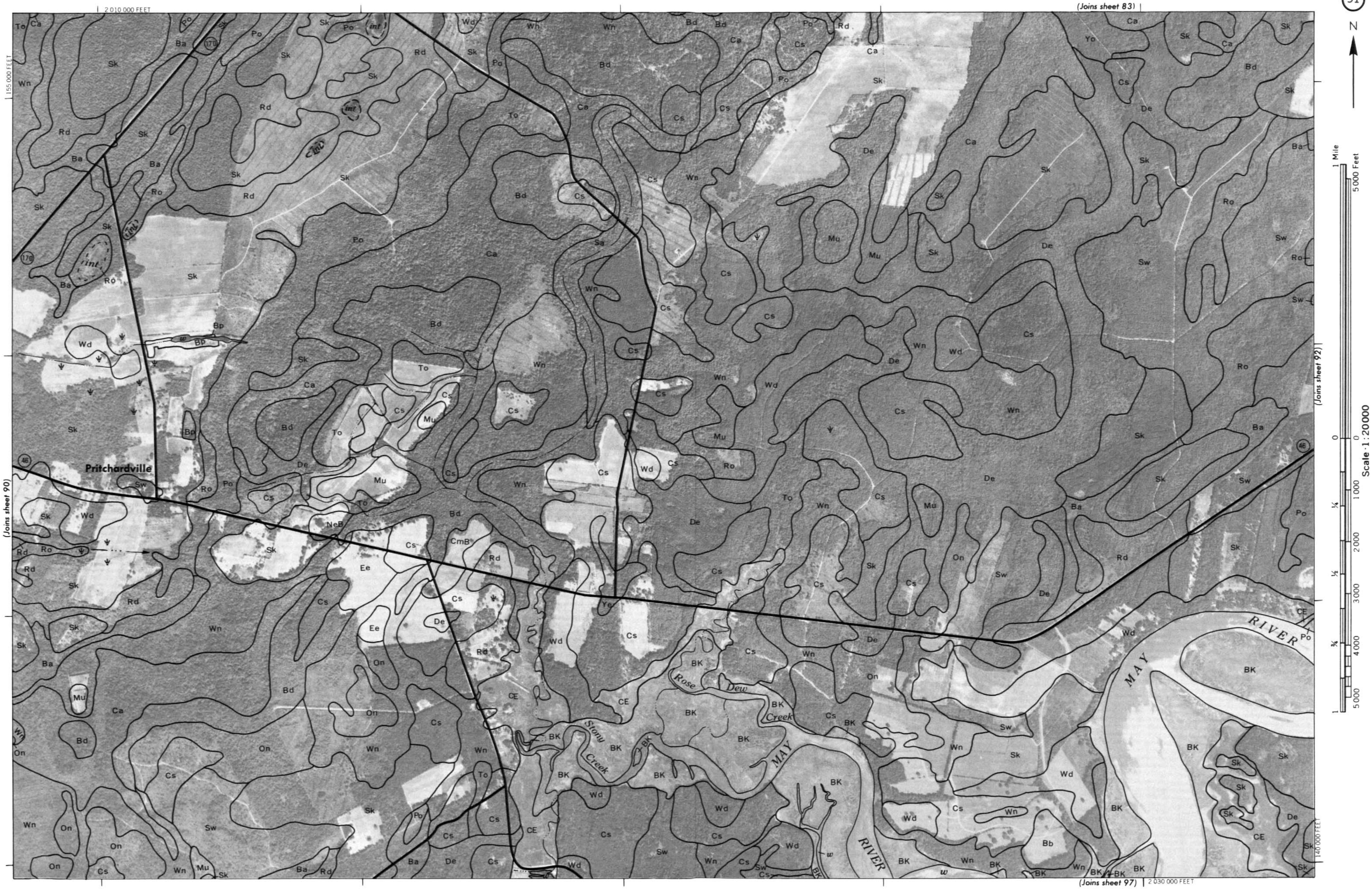

87
N
(Joins sheet 78)
(Joins sheet 86)
(Joins sheet 88)
(Joins inset, sheet 88)
2 110 000 FEET
170 000 FEET
160 000 FEET
2 130 000 FEET
BEAUFORT RIVER
PORT ROYAL SOUND
ST HELENA ISLAND
STATION CREEK
ST PHILLIPS ISLAND
ST PHILLIPS ISLAND
MORSE ISLAND CREEK
Bay Point Island
TRENCHARDS INLET
CAPERS ISLAND
BULL POINT
ATLANTIC OCEAN
1 Mile
5000 Feet
Scale 1:20000


N
Scale 1:20000
1 Mile
5000 Feet
0
1000
2000
3000
4000
5000
(Joins sheet 79)
(Joins sheet 87)
2 155 000 FEET
170 000 FEET
160 000 FEET
2 135 000 FEET
ST PHILLIPS ISLAND
PRITCHARDS ISLAND
TRENCHARDS INLET
MOON CREEK
CAPERS ISLAND
TURTLE CREEK
PRITCHARDS INLET
ATLANTIC OCEAN
ATLANTIC OCEAN
BK
CE
Fb
Co
w
(Joins sheet 87)
2 120 000 FEET
155 000 FEET
152 000 FEET
2 110 000 FEET
PORT ROYAL SOUND
Bay Point Island
ATLANTIC OCEAN
3000 AND 5000-FOOT GRID TICKS


(Joins sheet 81)
(Joins sheet 90)
(Joins sheet 95)
(Joins inset B, sheet 71)
1 960 000 FEET
1 980 000 FEET
155 000 FEET
140 000 FEET
SEABOARD
COAST
LINE
UNION CREEK
SAND ISLAND
SAVANNAH NATIONAL WILDLIFE REFUGE
UNION CREEK
N
1 Mile
5000 Feet
Scale 1:20000

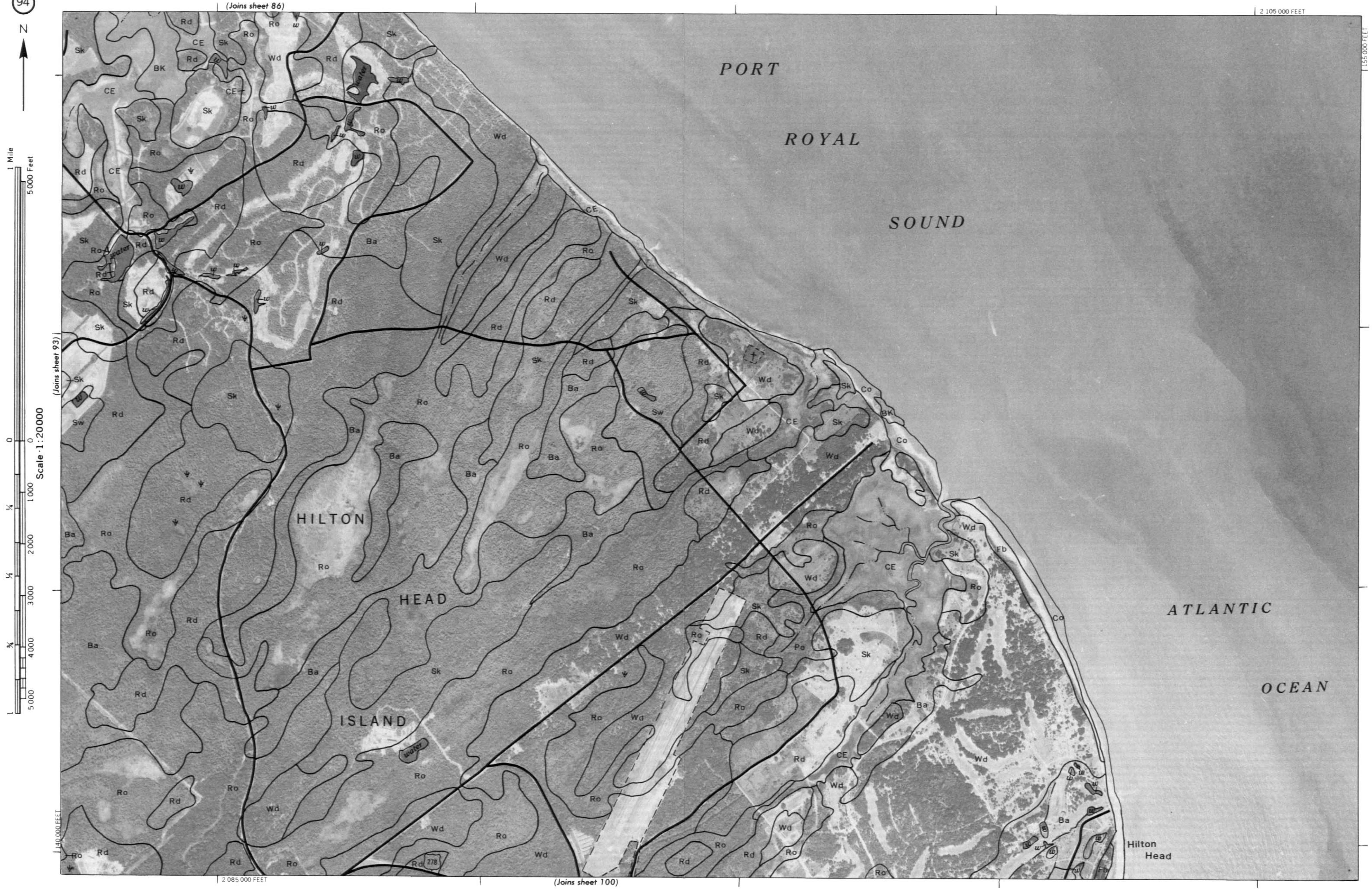


N
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
(Joins sheet 82)
(Joins sheet 89)
(Joins sheet 91)
(Joins sheet 96)
2 005 000 FEET
155 000 FEET
140 000 FEET
1 985 000 FEET
JASPER COUNTY
BEAUFORT COUNTY
LINE
NEW RIVER
SEABOARD COAST
Pritchard Station
Levy Station
46
170


91
N
(Joins sheet 83)
(Joins sheet 92)
(Joins sheet 90)
(Joins sheet 97)
2 010 000 FEET
2 030 000 FEET
155 000 FEET
140 000 FEET
Pritchardville
MAY RIVER
MAY
RIVER
Rose Dew Creek
Stony Creek
1 Mile
5000 Feet
Scale 1:20000

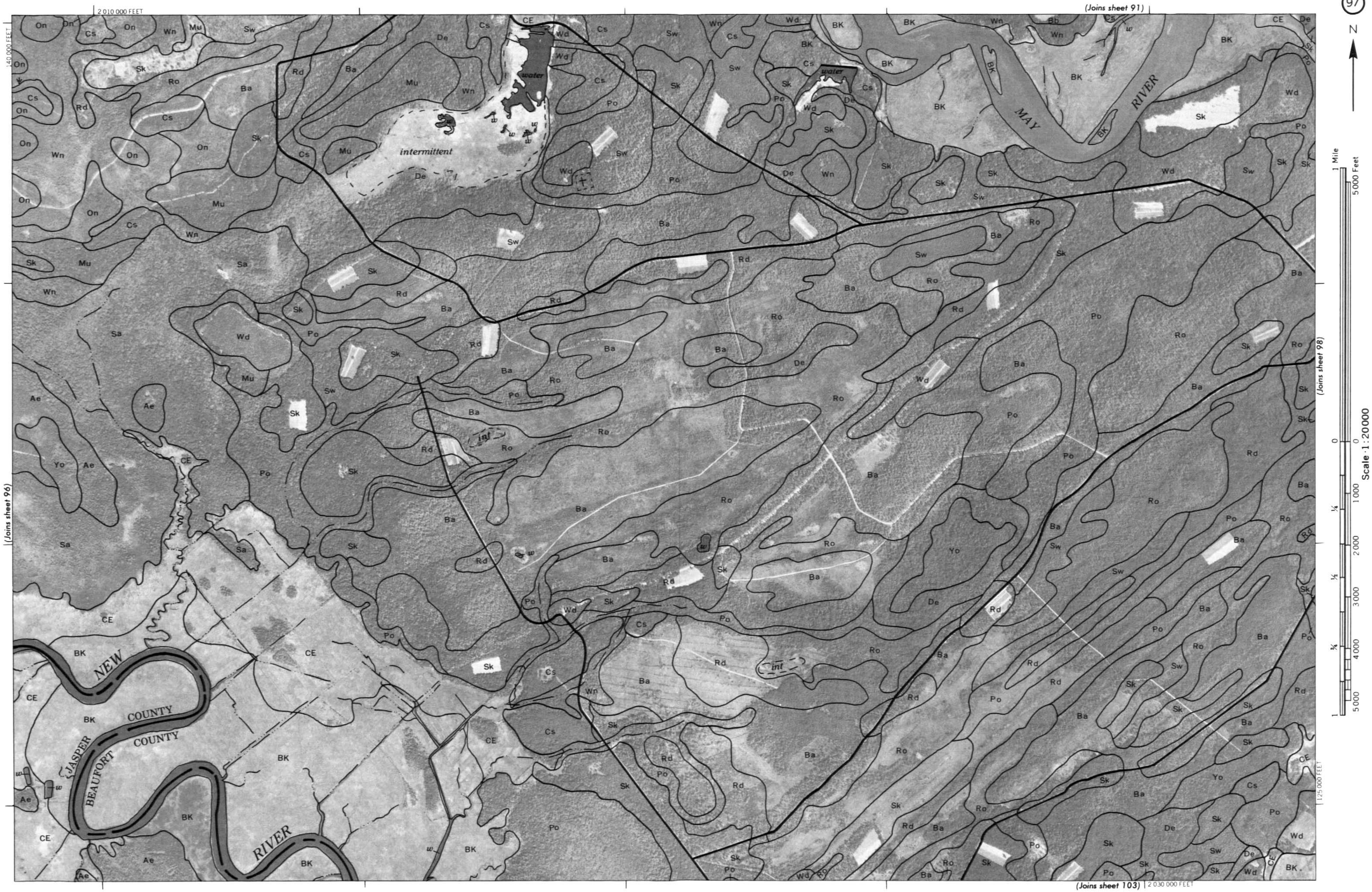

92
N
(Joins sheet 84)
(Joins sheet 91)
(Joins sheet 93)
(Joins sheet 98)
2 055 000 FEET
155 000 FEET
2 035 000 FEET
140 000 FEET
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
Bluffton
Brighton
Beach
MAY
RIVER
water
278
46
Ba
BK
Bd
CE
De
Mu
Po
Rd
Ro
Sk
Sw
Wd
Yo

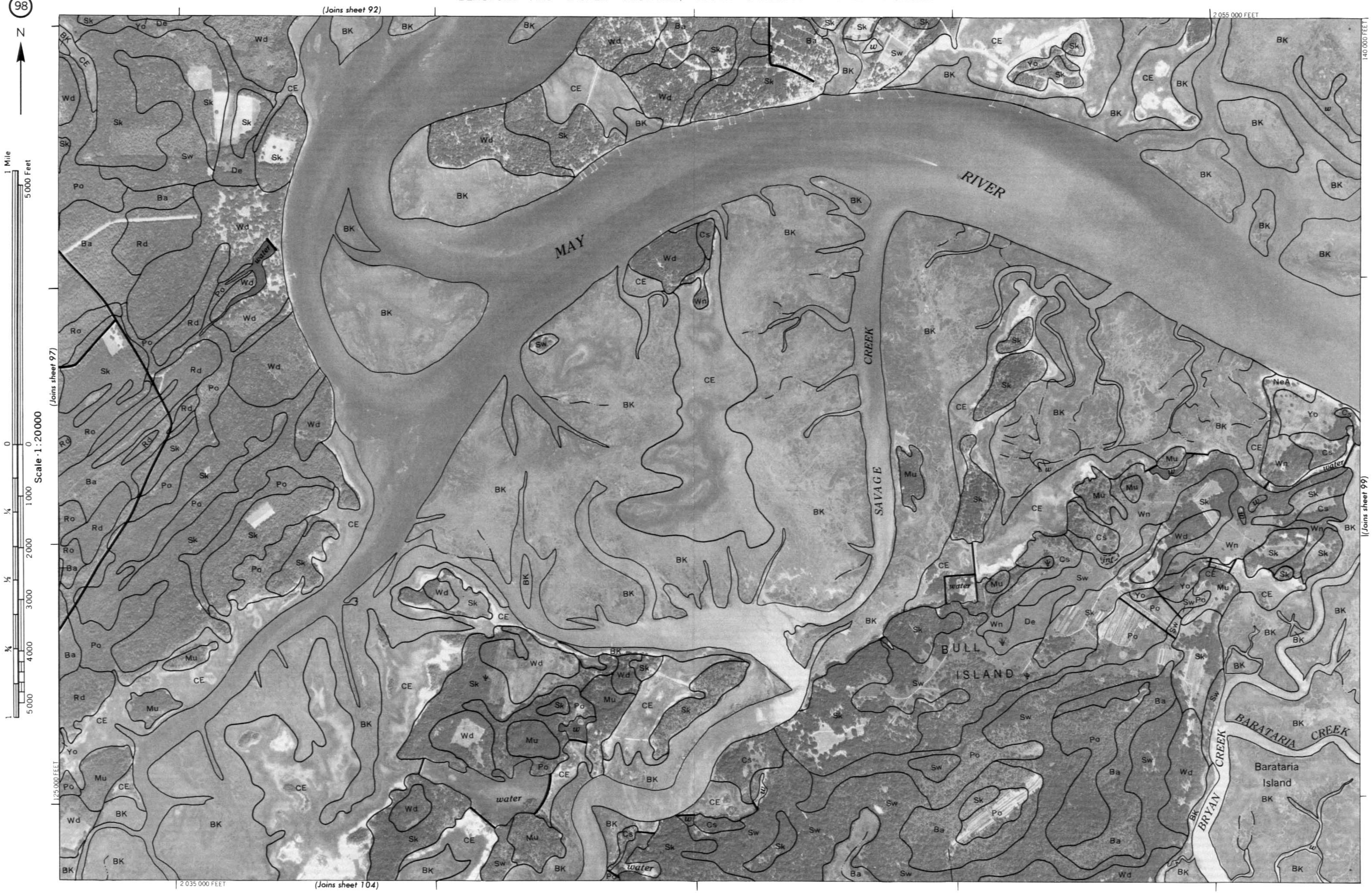

93
N
2 060 000 FEET
(Joins sheet 85)
155 000 FEET
(Joins sheet 92)
(Joins sheet 94)
(Joins sheet 99)
2 080 000 FEET
140 000 FEET
1 Mile
5000 Feet
Scale 1:20000
WATERWAY
CREEK
MACKAY
COASTAL
CREEK
SKULL
INTER
Buckingham
Landing
Pinckney
Island
Hilton
Head
Harbor
Hilton
Head
Island
278
278
water
BK
Bb
CE
Ye
Sk
Wd
Wn
Cs
Rd
Ro
Ba
Yo
To
Sw
Ae
Po


N
(Joins sheet 86)
(Joins sheet 93)
(Joins sheet 100)
2 105 000 FEET
155 000 FEET
140 000 FEET
2 085 000 FEET
1 Mile
5000 Feet
Scale 1:20000
PORT
ROYAL
SOUND
ATLANTIC
OCEAN
HILTON
HEAD
ISLAND
Hilton
Head
water
Rd
Ro
Sk
CE
Wd
BK
Ba
Sw
Co
Fb
Po
278

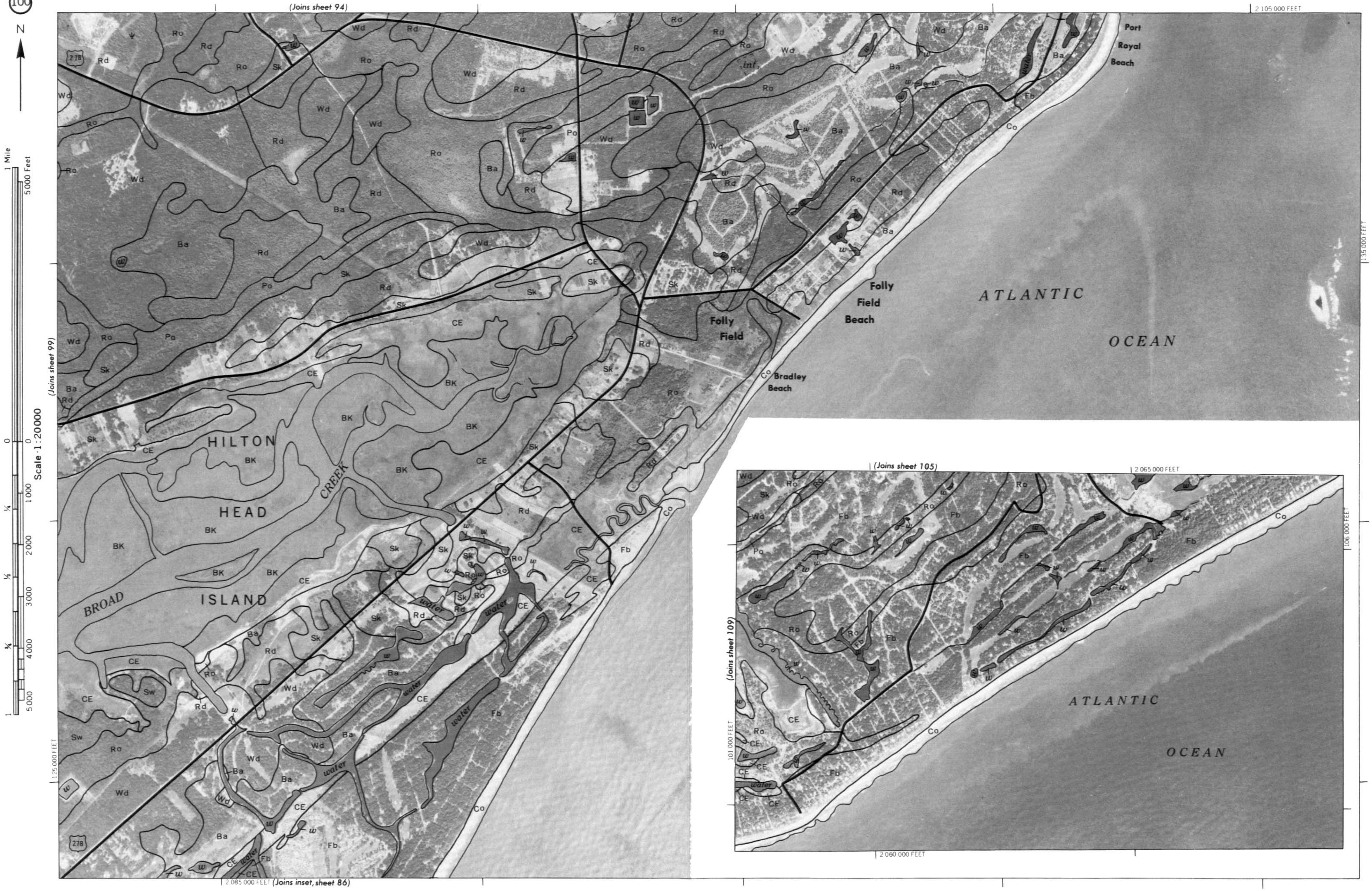

95
(Joins sheet 89)
(Joins sheet 96)
(Joins sheet 101)
(Joins inset, sheet 106)
1 960 000 FEET
1 980 000 FEET
140 000 FEET
125 000 FEET
N
Scale 1:20000
1 Mile
5000 Feet
0
¼
½
¾
1
1000
2000
3000
4000
5000
Limehouse
SAVANNAH NATIONAL WILDLIFE REFUGE
JASPER COUNTY
CHATHAM COUNTY
GEORGIA
LITTLE BACK RIVER
VERNEZOBRE CREEK
Union Creek
water
LE
HB
CmB
Cs
Wn
Bd
Ee
Yo
Sa
NeB
Ae
Wa
Mu
Oe
BeB
Bp
Wd
17
17A
170


96
N
(Joins sheet 90)
(Joins sheet 95)
(Joins sheet 97)
(Joins sheet 102)
2 005 000 FEET
140 000 FEET
1 985 000 FEET
125 000 FEET
Levy
New River
NEW RIVER
BEAUFORT COUNTY
JASPER COUNTY
COAST LINE
SEABOARD
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
¼
½
¾
1


97
N
2 010 000 FEET
140 000 FEET
(Joins sheet 91)
(Joins sheet 98)
(Joins sheet 96)
(Joins sheet 103)
2 030 000 FEET
125 000 FEET
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
¼
½
¾
1
MAY RIVER
NEW RIVER
JASPER COUNTY
BEAUFORT COUNTY
water
intermittent
int
w
On
Cs
Wn
Mu
Sw
Sk
Ro
Ba
Rd
Mu
CE
De
Wd
Po
BK
Bb
Wn
Sa
Ae
Yo
Ro
Rd

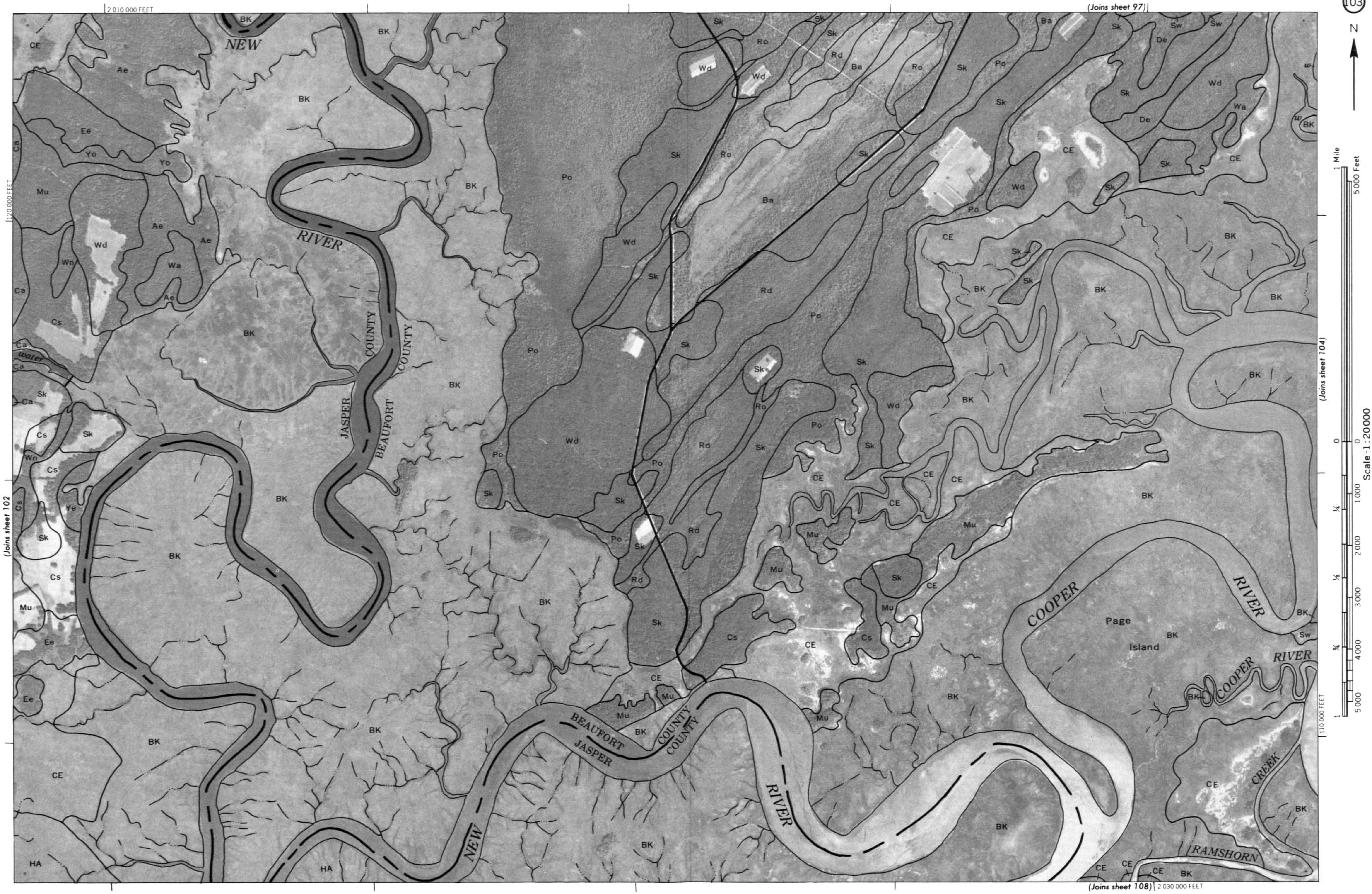

N
Scale 1:20000
1 Mile
5000 Feet
(Joins sheet 92)
(Joins sheet 97)
(Joins sheet 99)
(Joins sheet 104)
2 055 000 FEET
140 000 FEET
125 000 FEET
2 035 000 FEET
MAY
RIVER
SAVAGE
CREEK
BULL
ISLAND
BARATARIA
CREEK
BRYAN
CREEK
Barataria
Island
water


2 060 000 FEET
140 000 FEET
(Joins sheet 93)
(Joins sheet 98)
(Joins sheet 100)
(Joins sheet 105)
2 080 000 FEET
125 000 FEET
N
MACKAY CREEK
BASS CREEK
Jenkins Island
CREEK
JARVIS
OLD HOUSE CREEK
MAY RIVER
Barataria Island
Barataria Creek
CALIBOGUE SOUND
Marsh Island
BROAD CREEK
278
1 Mile
5000 Feet
0
1000
2000
3000
4000
5000
Scale 1:20000


N
1 Mile
5 000 Feet
Scale 1:20000
(Joins sheet 94)
2 105 000 FEET
Port Royal Beach
Folly Field Beach
Folly Field
Bradley Beach
ATLANTIC OCEAN
135 000 FEET
(Joins sheet 99)
HILTON HEAD ISLAND
BROAD CREEK
125 000 FEET
2 085 000 FEET (Joins inset, sheet 86)
(Joins sheet 105)
2 065 000 FEET
106 000 FEET
(Joins sheet 109)
101 000 FEET
ATLANTIC OCEAN
2 060 000 FEET

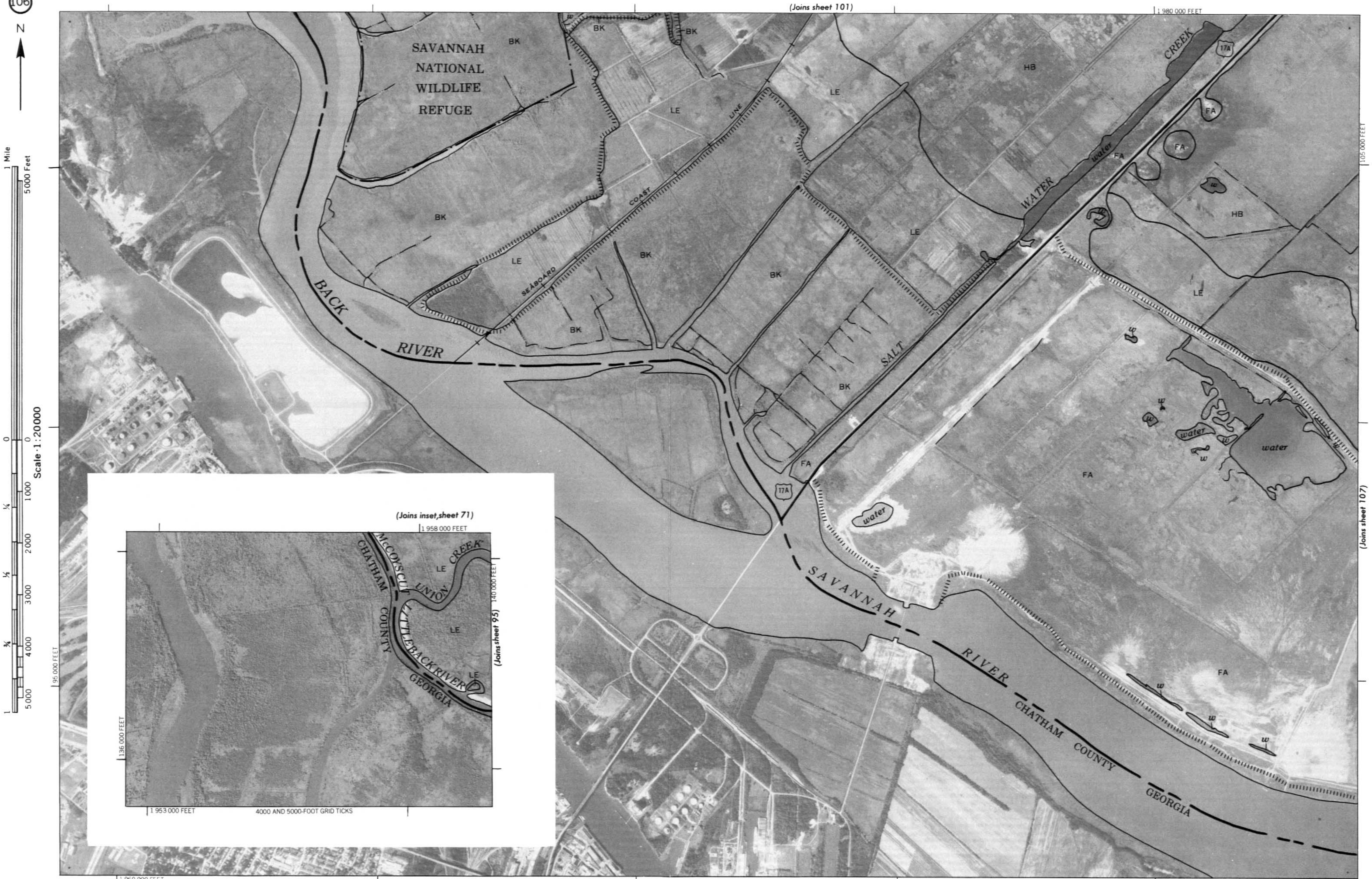

101
N
(Joins sheet 95)
(Joins sheet 102)
(Joins sheet 106)
1 960 000 FEET
1 980 000 FEET
120 000 FEET
110 000 FEET
1 Mile
5000 Feet
Scale 1:20000
LITTLE BACK RIVER
CHATHAM COUNTY
GEORGIA
SAVANNAH NATIONAL REFUGE
CLYDESDALE CREEK
SEABOARD COAST LINE
water
LE
HB
Wd
BK
Ae
Oe
Bp
CmB
Cs
Sa
NeA
Ca
FA
Rd
w
17
17A


102
N
(Joins sheet 96)
(Joins sheet 101)
(Joins sheet 103)
(Joins sheet 107)
Monkey John Swamp
WRIGHT RIVER
WRIGHT RIVER
2 005 000 FEET
120 000 FEET
110 000 FEET
1 985 000 FEET
Scale 1:20000
1 Mile
5000 Feet
0 1000 2000 3000 4000 5000
0 ¼ ½ ¾ 1
17A
water


103
N
2 010 000 FEET
(Joins sheet 97)
(Joins sheet 102)
(Joins sheet 104)
(Joins sheet 108)
2 030 000 FEET
120 000 FEET
110 000 FEET
NEW
RIVER
NEW RIVER
JASPER COUNTY
BEAUFORT COUNTY
COOPER RIVER
COOPER RIVER
RAMSHORN
CREEK
Page Island
water
1 Mile
5000 Feet
Scale 1:20000
0
¼
½
¾
1
1000
2000
3000
4000
5000


N
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
¼
½
¾
2 035 000 FEET
(Joins sheet 98)
(Joins sheet 103)
(Joins sheet 105)
(Joins sheet 109)
120 000 FEET
110 000 FEET
2 055 000 FEET
BULL
CREEK
BULL
ISLAND
BRYAN
CREEK
CALIBOGUE
SOUND
COOPER
RIVER
COOPER
RIVER
RAMSHORN CREEK
INTRACOASTAL WATERWAY
DAUFUSKIE
ISLAND
HILTON
HEAD
ISLAND
water
int

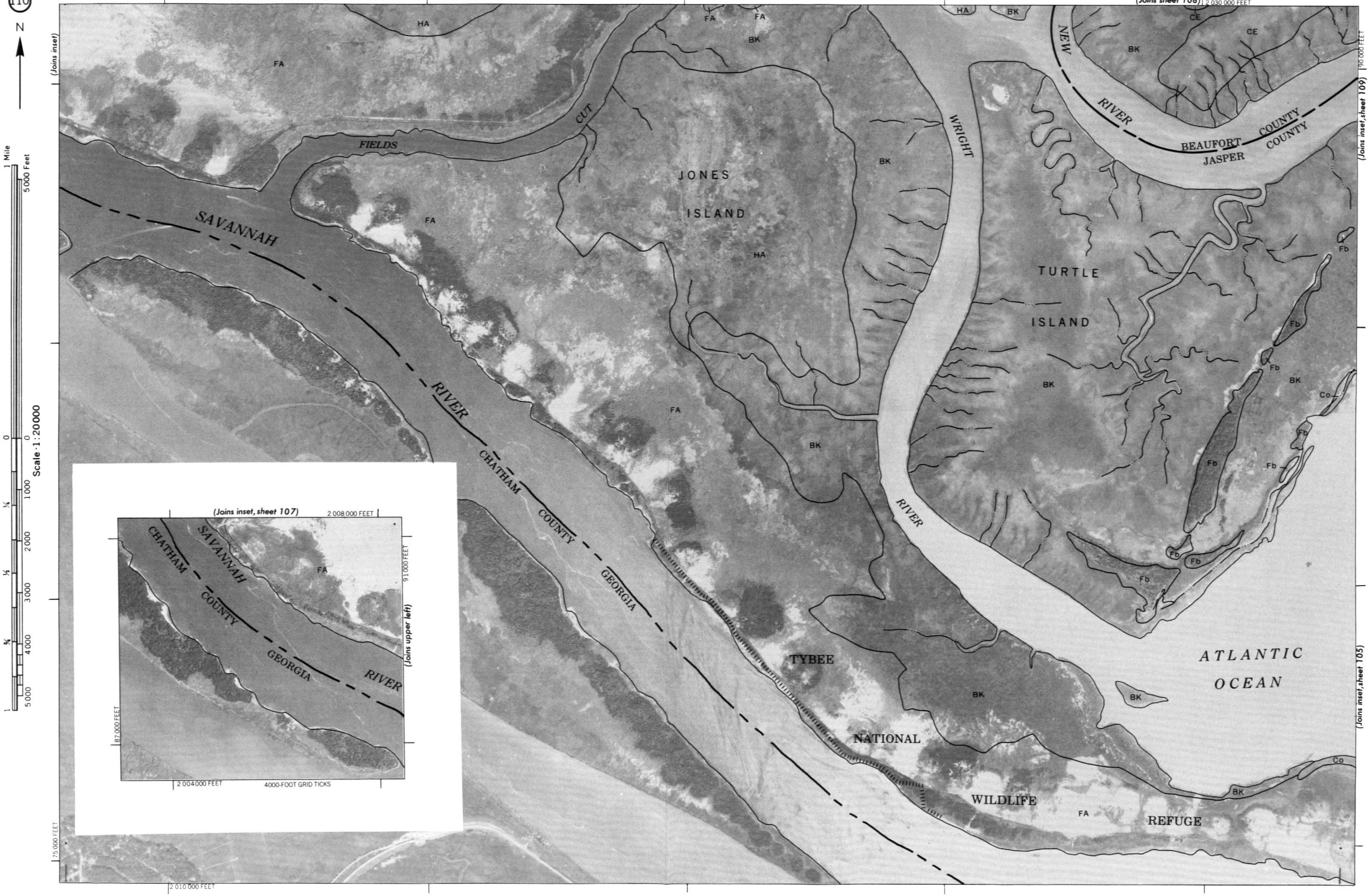

105
N
(Joins sheet 99)
2 080 000 FEET
(Joins sheet 86)
(Joins sheet 104)
(Joins inset), sheet 100
2 060 000 FEET
120 000 FEET
110 000 FEET
CALIBOGUE SOUND
BROAD CREEK
Buck Island
HILTON HEAD ISLAND
Forest Beach
ATLANTIC OCEAN
TYBEE NATIONAL WILDLIFE REFUGE
JONES ISLAND
(Joins sheet 110)
2 035 000 FEET
2 033 000 FEET
75 000 FEET
77 000 FEET
2000-FOOT GRID TICKS
1 Mile
5000 Feet
Scale 1:20000
278


106
N
(Joins sheet 101)
1 980 000 FEET
SAVANNAH NATIONAL WILDLIFE REFUGE
BACK RIVER
SEABOARD COAST LINE
SALT
WATER CREEK
17A
SAVANNAH RIVER
CHATHAM COUNTY GEORGIA
(Joins sheet 107)
105 000 FEET
1 960 000 FEET
BK
LE
HB
FA
water
w
1 Mile
5000 Feet
Scale 1:20000
(Joins inset, sheet 71)
1 958 000 FEET
McCOYS CUT
UNION CREEK
CHATHAM COUNTY
LITTLE BACK RIVER
GEORGIA
(Joins sheet 95)
140 000 FEET
136 000 FEET
95 000 FEET
1 953 000 FEET
4000 AND 5000-FOOT GRID TICKS

107
N
1 985 000 FEET
(Joins sheet 102)
105 000 FEET
(Joins sheet 106)
(Joins sheet 108)
95 000 FEET
2 005 000 FEET
(Joins inset, sheet 110)
WRIGHT RIVER
SAVANNAH RIVER
CHATHAM COUNTY GEORGIA
Barnwell Island
water
LE
HB
HA
Ae
Oe
BK
CE
FA
w
1 Mile
5000 Feet
0
¼
½
¾
1
1000
2000
3000
4000
5000
Scale 1:20000


N
1 Mile
5 000 Feet
0
0
1000
2000
3000
4000
5000
¼
½
¾
1
Scale 1:20000
(Joins sheet 103)
2 030 000 FEET
105 000 FEET
(Joins sheet 107)
(Joins sheet 109)
(Joins sheet 110)
95 000 FEET
2 010 000 FEET
NEW
RIVER
water
INTERCOASTAL
WATERWAY
NEW
BEAUFORT COUNTY
JASPER COUNTY
RIVER
RAMSHORN
CREEK
Pine
Island
Daufuskie
Island
WRIGHT
RIVER
FIELDS
CUT
JONES
ISLAND
BK
HA
CE
Sw
Ba
Wd
Sk
FA


109
N
(Joins sheet 104)
(Joins sheet 108)
(Joins inset, sheet 100)
(Joins inset)
2 035 000 FEET
105 000 FEET
2 055 000 FEET
COOPER RIVER
RAMSHORN CREEK
DAUFUSKIE ISLAND
NEW RIVER
CALIBOGUE SOUND
HILTON HEAD ISLAND
(Joins lower left)
(Joins sheet 110)
2 030 000 FEET
90 000 FEET
95 000 FEET
85 000 FEET
2 040 000 FEET
Bloody Point
BEAUFORT COUNTY
JASPER COUNTY
NEW RIVER
TURTLE ISLAND
ATLANTIC OCEAN
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
¼
½
¾
1


N
1 Mile
5000 Feet
Scale 1:20000
0
1000
2000
3000
4000
5000
(Joins inset)
(Joins sheet 108)
2 030 000 FEET
90 000 FEET
(Joins inset, sheet 109)
(Joins inset, sheet 105)
75 000 FEET
2 010 000 FEET
FIELDS
CUT
SAVANNAH
RIVER
CHATHAM
COUNTY
GEORGIA
JONES
ISLAND
WRIGHT
RIVER
NEW
RIVER
BEAUFORT
COUNTY
JASPER
COUNTY
TURTLE
ISLAND
TYBEE
NATIONAL
WILDLIFE
REFUGE
ATLANTIC
OCEAN
HA
FA
BK
CE
Fb
Co
(Joins inset, sheet 107)
2 008 000 FEET
91 000 FEET
(Joins upper left)
87 000 FEET
2 004 000 FEET
4000-FOOT GRID TICKS